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THE MAGAZINE FOR INFORMATION EXECUTIVES

*Six Systems That Make
A Defining Difference
By Adding Value
To The Business*

SPECIAL ISSUE

The 1 9 9 4
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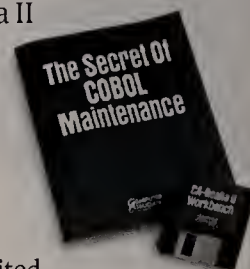
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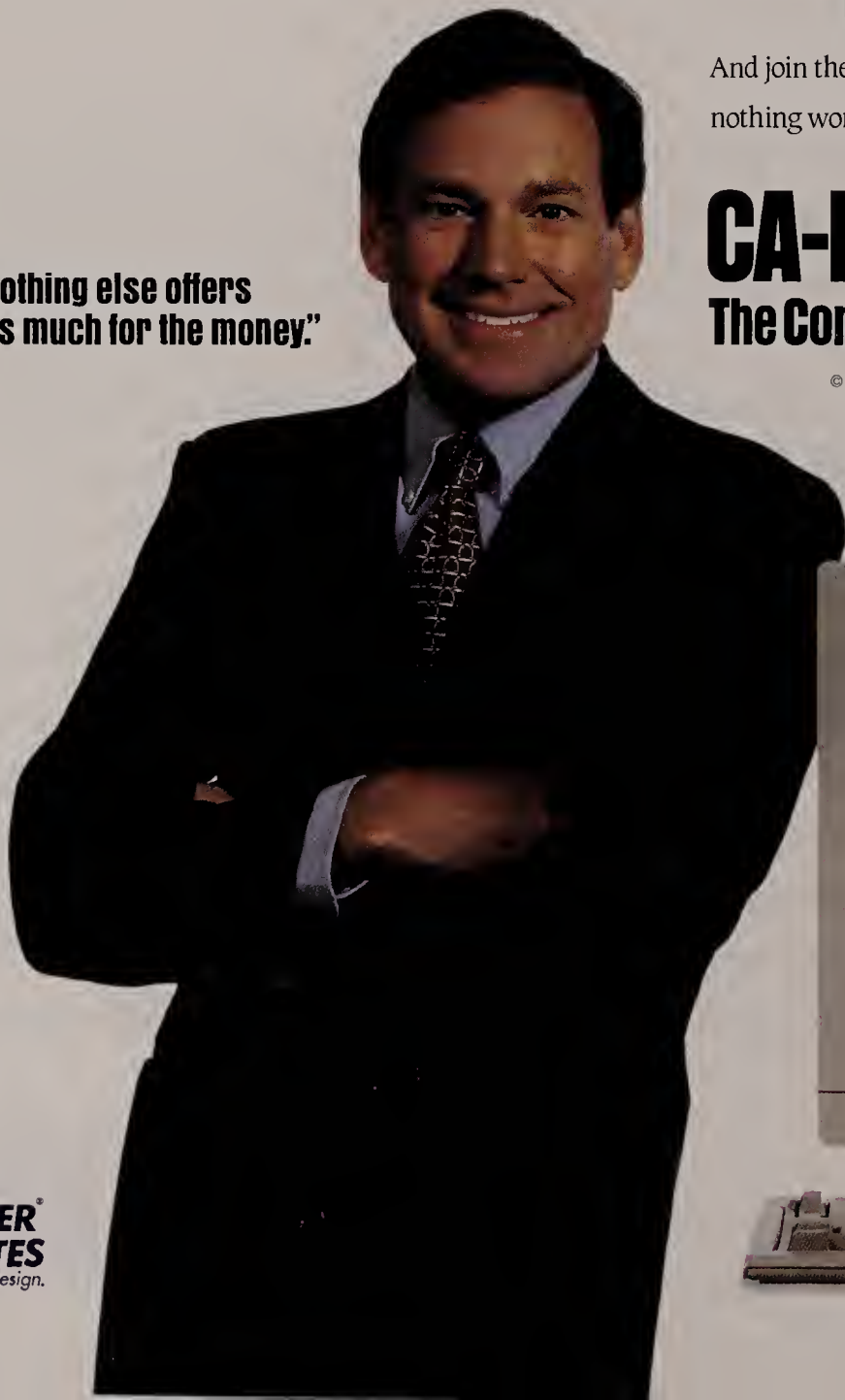
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Visionary partners 26
Cover illustration by Terry Allen

CIO

VOLUME 8, NUMBER 7

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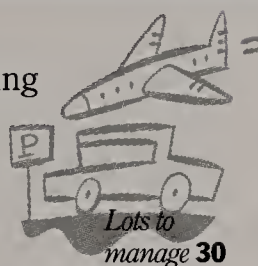
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By Carol Hildebrand



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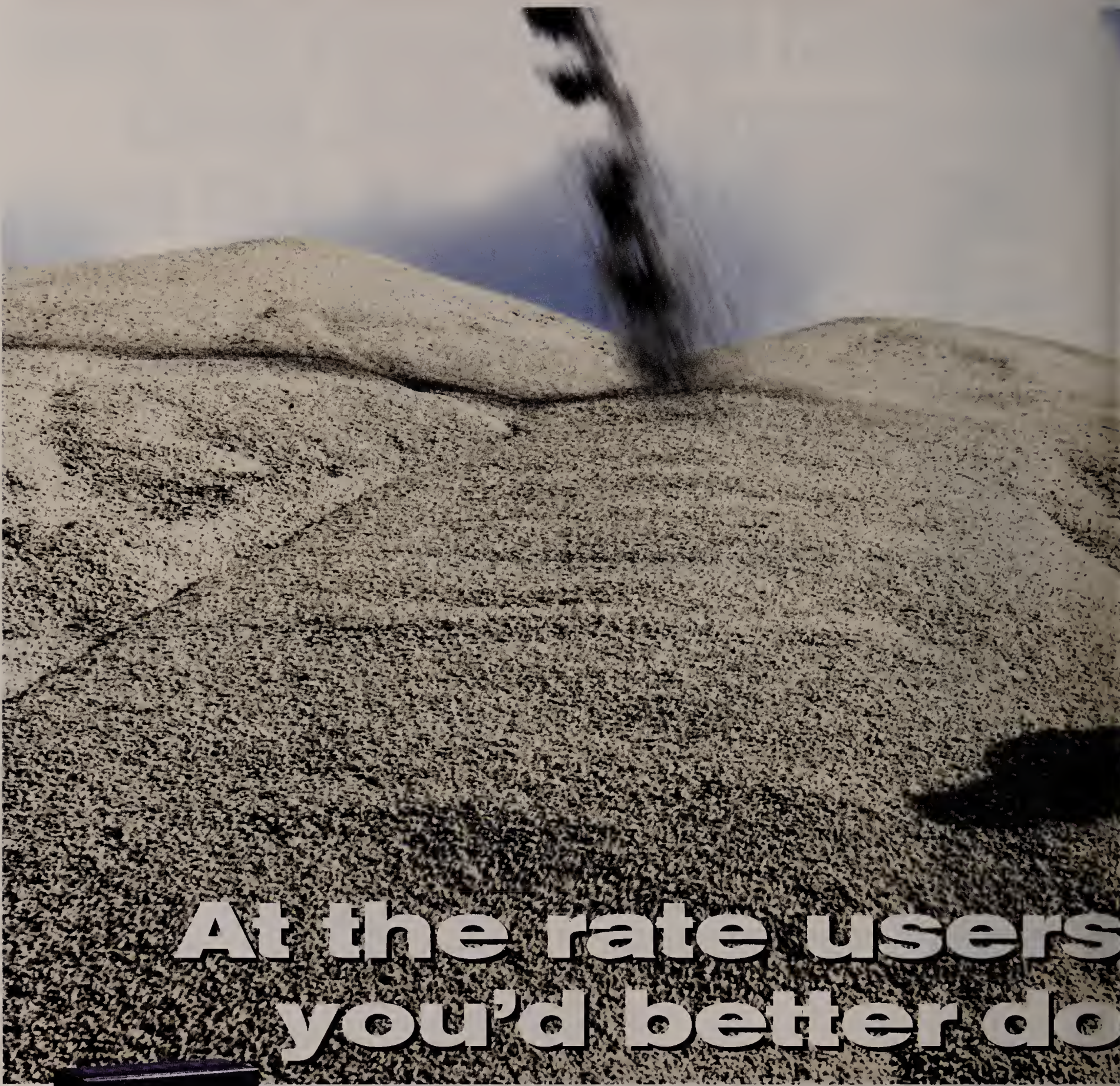
Satisfying the Inn Crowd

A sophisticated central reservation system gave Hyatt Hotels major new staying power.

By Anne Stuart



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THE ESPRIT AWARDS (CONT.)

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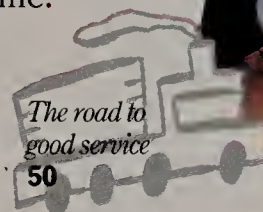
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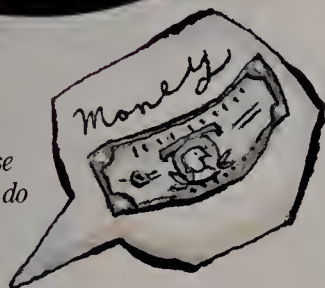
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In this issue of *CIO*, we profile the six organizations that received the second annual ESPRIT Awards, which honor enterprises for using information technology to run their businesses effectively.

The systems that garnered the 1994 ESPRIT Awards run the gamut from one that automates back-office practices to an underlying technology infrastructure that is the lifeblood of the company it serves. One thing they all have in common is that each led to a marked improvement in customer service—whether the customers are internal or external. In addition, and perhaps not surprisingly, these systems have allowed external customers to tie in more closely

with company information management systems. They also provide new insights into future product and service offerings and could potentially augment revenues by being marketed to other organizations.

APCOA, the nation's largest operator of parking facilities, automated its back-office system, giving workers better and quicker access to information. The company found it could employ one administrator for 30 or 40 parking sites instead of maintaining the 1-to-10 site ratio previously required. Despite Kmart's recent financial problems, the discount chain has had some success with its Seasonal Merchandise Management System. The system gives management personnel access to inventory information from the company's 2,350 stores nationwide; this helps them make targeted pricing decisions on seasonal merchandise for each store. And the Commonwealth of Massachusetts has been able to collect fees owed to 100 departments across the state to the tune of \$120 million—an amount that probably would not have been collected without its Billing and Accounts Receivable System.

Executives at PCs Compleat, a retail distributor of PC products, reveal that they would not have been able to start the company without investments in technology. Today, PCs Compleat shares information on sales with some of its vendors, and its sales have doubled over the past year. And Caterpillar's Engine Division has been able to give its dealers secure, easy access to its mainframe-based data to speed turnaround on repairs and enable faster fulfillment of warranty claims. The result: Both the service shops and their customers are happier. Finally, through its SPIRIT Central Reservation System, Hyatt Hotels & Resorts has been able to increase bookings by 25 percent. Now its Regency Systems Solutions operating division is looking to market SPIRIT to other hospitality chains.

Look for applications and information about 1995's award program in the March issue of *CIO*.

Marcia Blumenthal



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CIO

P E R S P E C T I V E S

Conference
Supplement to
CIO Magazine

FEATURING

**JAMES A.
CHAMPY**

**IT: The Hinge of
Radical Change**

PLUS:

**The IT Professional's
New Role**

IT Changes at the CIA

**Operating a Healthy
IT Organization**

**Change Resistant
Organizations**

**The CIO's Marketing IQ
Update on the Internet**

MANAGING IT IN THE REORGANIZED ENTERPRISE

MARCH 12-15, 1995 • WESTIN MISSION HILLS • RANCHO MIRAGE, CALIFORNIA



P E R S P E C T I V E S

Conference Supplement

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Conference Overview

Joseph L. Levy & Lynda Rosenthal

Can You Spare Some Change?

From the CIA to the insurance industry, a view of several reorganized entities.

Agenda

Annotated information about each general and concurrent session and scheduled activities.

Companion Program

Join conference participants for receptions, meals and optional excursions, including a special companion breakfast.

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Select industry product and service providers will display key technologies and discuss applications.

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Conference Overview

*If you're not already in some phase of restructuring, you will be!
Are you prepared?*

Reengineering, downsizing, rightsizing. Much has been written about the processes involved in reorganization, but there is little discussion about life in post-restructured enterprises.

Change is everywhere and continuous. And trying to restructure against unrelenting change is like swimming upstream tail first. Yet we are told that in order to survive, companies must embrace change. The difficulty is in focusing on change in response to external market conditions and changing customer needs, while being mindful of the effects of change internally. The CIO must be in the forefront and on the firing line to facilitate communications with every individual in the enterprise, its constituents and extended consumer families.

Jim Champy says, "It's impossible to overestimate the impact of IT in changing the future of both business and society." From the Central Intelligence Agency (CIA) and healthcare, to global operations in chemical and insurance companies, we can see the truth of Champy's statement. In fact, we *must* see it. And **Managing IT in the Reorganized Enterprise** will focus on that reality.

Whether you have direct responsibility or indirect accountability for IT, you will need the information from this conference to help you provide an effective change management program for yourself and provide the infrastructure for all the other divisions in your organization.

In an informal setting in the desert in March — you'll need a sweater, but *please* leave your tie at home — 600 IT executives will meet to discuss reorganization and see and hear about the technologies and tools to implement immense change.

Join conference moderator Jim Wetherbe, leading IT practitioners and analysts, CEOs, our Corporate Hosts and the staff of *CIO* magazine. For three days we'll zero in on **Managing IT in the Reorganized Enterprise**. What could be more important?

In order to accommodate the growing number of executives who want to attend our programs, we will offer hotel accommodations at two hotels. To ensure you have a hotel room at the conference site, please note that guaranteed rooms at the Westin Mission Hills will be reserved only for conference participants who enroll in and pay for the conference within two weeks of making their hotel reservations.

So mark your calendar — March 12–15; see if an internal business partner can join you; make your hotel and flight arrangements; and mail, fax or call us to participate in this spring's **CIO** conference. Don't wait — March is coming sooner than you think.

Regards,

Joseph L. Levy

Joseph L. Levy
President & Publisher
CIO Communications, Inc.

Lynda Rosenthal

Lynda Rosenthal
Senior Vice President & General Manager
Executive Programs

Can You Spare Some Change?

BY ANNE STUART



Reengineering may have started the business revolution, but, as many companies now realize, reorganizing the enterprise was just the first salvo. Real change is an ongoing battle, fought year to year and day to day, and it's senior managers who must lead the charge. Companies looking for a quick, decisive victory won't hesitate to station their IT executives on the front lines.

"There's no question that these changes are either enabled or driven by information technology," says James A. Champy, co-author, with Michael Hammer, of *Reengineering the Corporation: A Manifesto for Business Revolution* (HarperCollins Publishers, 1993). Champy calls IT "one of the most powerful enabling tools for change in the way we do our work. The CIO has to be present at the time of inception of the way the work is being done."

Champy, chairman of the CSC Consulting Group in Cambridge, Mass., contends it's impossible to overestimate the impact of IT in changing the future of both business and society. "It's like the move from the agricultural to the industrial economy," Champy says, citing wholesale displacement of people, jobs, businesses and industries. The biggest difference: Rapidly changing developments in IT will have an even greater impact on our way of doing business — and our way of life.

Managers must also adapt to changes resculpting the economic landscape, including globalization, the emergence of new players and increasing customer demand to deliver improved products and services faster and at competitive prices.

For that reason, executives involved in tearing down and rebuilding their companies can't just overhaul the business processes. They have to overhaul their ideologies and their jobs as well. As Champy puts it, "This is the time of reinvention for managers' work." Without that effort, he says, managers risk undermining the structures they worked so hard to reorganize.

Nowhere is that more true than in IT, where the ever-faster pace of change has boosted expectations inside the enterprise as well as outside. And IT executives in information-intensive industries such as insurance, health care and government are already seeing major changes in their responsibilities and how they, their staffs and their customers spend their days.

"We've got a work force that can't accomplish its work without the technology," says Susan S. Kozik, vice president of technology services at CIGNA Corp. in Philadelphia. "That's a huge change from 15 years ago."

In those days, nobody expected systems to run all the time. "Eighty-five percent mainframe availability used to be acceptable," Kozik recalls. When systems were down, people simply did other tasks, such as paperwork. These days, "we've eliminated that paperwork or automated it," Kozik says. "Ninety-nine percent [availability] is now minimum."

In addition, she says, "our reliance on technology requires it to be a 24-hour, seven-day operation," creating additional pressures on IT and its executives.

To keep pace, the insurance giant has radically redesigned its massive IT organization, flattening its hierarchy, giving more power to employees and converting ➤

to teams designed to support business functions rather than specific applications. The effort included creating what she calls a new IT professional, one with a broad background in business and technology and the ability to adapt quickly to shifting IT needs.

That transition requires an atmosphere of continuous learning, and toward that end, Kozik's organization has adopted the "customer interaction model," an effort to better understand the IT needs of her organization's internal customers. "We learned that the customers want to engage us in a 911 in-reach capacity as well as in a more complex strategic partnership," Kozik says.

To accomplish those goals, CIGNA will create a customer support center. Currently, "we've got a lot of information in the organization, but it's hard to find." Consolidating the knowledge in the support center makes it accessible to any of CIGNA's 55,000 employees — including the center's staffers. "People who are answering the phones will be learning as they go," she says.

Major players in the health care industry are radically reorganizing as well, but with a different fundamental imperative: to balance soaring costs and quality care. "The IT response to this has to be: How do we apply IT such that it reduces the cost of care?" says John P. Glaser, vice president for IS at Brigham and Women's Hospital in Boston. Answering that question often requires measuring quality in terms of care as well as cost, then using IT to improve both.

For example, Glaser says, executives compiled a list of the hospital's most expensive and frequently used medications. Their research indicated that

Brigham and Women's was spending \$750,000 a year on human growth hormone, a drug rarely used in most institutions. Administrators investigated and found orthopedic surgeons were prescribing the costly drug to help bones mend faster. But, Glaser says, the hormone can also cause unpleasant side effects.



**"The only way to
change is to make
yourself
vulnerable."**

Now when physicians order the hormone by computer, they see a screen with a gentle reminder that the drug is intended for some conditions, but not for others — including broken bones. Expenditures dropped to \$50,000 annually, one-fifteenth of the former amount, as physicians opted for other alternatives.

Sometimes improvements are measured purely in quality of care. Glaser's division helped develop a physician-alert system triggered when a patient's blood work registers very low potassium levels, which can indicate a life-threatening condition. In the past, the time from lab detection to physician intervention averaged five hours. Now it's down to 12 minutes, thanks to a system

which records the potassium level, alerts doctors by beeper and recommends possible treatments.

At the Central Intelligence Agency, change came in the form of consolidation and streamlining. "The agency had grown up as four separate systems" with very little integration, says the CIA's Michael Dillard. To overhaul its IT organization, the CIA created an agency-wide network, moving quickly from a mainframe to a client/server environment. Internal communications were also greatly upgraded. Previously, Dillard says, he could directly send e-mail to only a handful of people; now, he can reach 92 percent of the agency's employees worldwide from his desktop. "This allows us fundamentally to run the agency in a different way," he says.

Agency executives also appointed a committee, headed by Dillard, to set all IT policy. As one of its major efforts, the committee established an agency-wide "approved products list" that, for instance, reduced the number of different PC products in the agency from 40 to three.

Obviously, such efforts require highly integrated, easily modified systems. But a new managerial mindset is just as important. "They need an ideology that is constantly questioning," says Champy, who sometimes encourages executives to set aside their business books in favor of dipping into the works of Ralph Waldo Emerson and other great philosophers.

And as their worlds shift around them, it's important for managers to acknowledge their fears about the upheaval. In fact, Champy says, that's part of the process: "The only way to change is to make yourself vulnerable." ■

Champy 'n' People



As executives grapple with reorganizing their companies, the man who co-wrote the book on reengineering says managers' own jobs will be defined by the answers to questions about four issues: purpose, culture, process and people.

PURPOSE comes first. "As managers, we have to go back and think of what our businesses actually do, what our business purposes actually are," says James A. Champy, coauthor, with Michael Hammer, of *Reengineering the Corporation: A Manifesto for Business Revolution* (HarperCollins Publishers, 1993). "In many industries, information technology will be a driver, and that means the CIO has to be among those asking the question of purpose."

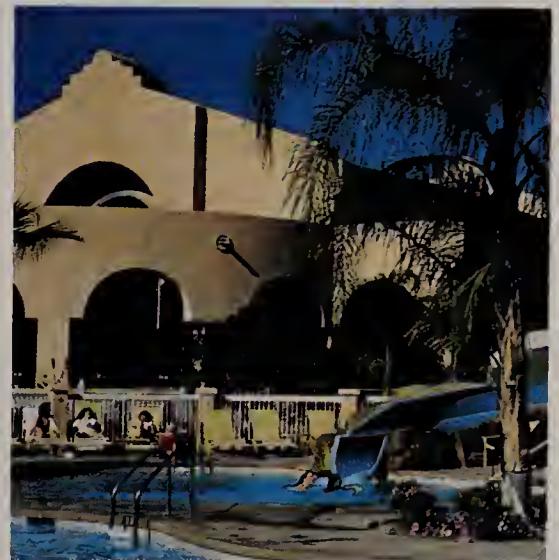
CULTURE plays two roles in defining the new manager's job. First, Champy says, any enterprise-wide shift requires executives to set the example: "If you want your workers to change, you have to change yourself." Also, he says, reengineering dissolves the old rules of governance. Replacing them involves answering the following questions: "What kind of culture do we want? If this is our new business, how do people have to behave?"

PROCESS involves examining how executives do their work — and how they want to do it. Champy poses the following questions: "How do managers add value? How do their work processes have to be rethought?" For the CIO, the effort may include additional questions about metrics: "If you start over with a clean slate, how are you going to measure processes? How are you going to measure success?"

PEOPLE account for the final piece of the puzzle. Executives need to rethink how to educate employees in an organizational culture that places a high value on willingness to learn. "Technology skills are important, but the kind of person you are is more important," Champy says.

Rancho Mirage's Westin Mission Hills

Palm trees, wildflowers, painted canyons and unspoiled beauty surround the Westin Mission Hills. The hotel's classic Moroccan design, complemented by the desert, offers a quiet, comfortable setting that provides an environment conducive to reflection, learning and networking. Golf, tennis, volleyball, croquet, weight training and steam rooms provide leisure activities, while the 75,000 square-foot conference center will accommodate all our meeting needs.



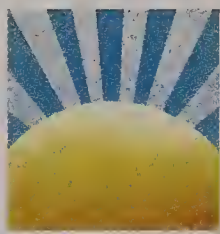
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CIO

P E R S P E C T I V E S

Managing IT in the Reorganized Enterprise

March 12-15, 1995
Westin Mission Hills
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California



Sunday, March 12

3:00pm-6:00pm
Conference Registration

7:00pm-9:30pm
Welcome Reception & Registration

9:30pm-12:00am
Hospitality/Networking

Monday, March 13

7:30am-8:15am
Breakfast

8:15am-8:20am
Welcome & Opening Remarks



Joseph L. Levy
President & Publisher
CIO Communications, Inc.

8:20am-9:30am
**Implementing Change
in the Resistant Organization**



Conference Moderator
Dr. Jim Wetherbe
Director, MIS Research
Center
University of Minnesota

Federal Express Professor of
Excellence & Director, Center for
Cycle Time Research
University of Memphis

Inability to change is to be left behind, and management is finding itself under pressure to bring about change in increasingly resistant organizations. Employees just don't like the way change is usually managed. Eighty percent of the difficulties that occur in organizations are not real problems — they are communication breakdowns or misunderstandings. Much resistance to change is caused by misinterpretation, not true resistance. Jim Wetherbe's pragmatic presentation provides effective means for managing change.

9:30am-10:15am

**Focusing an Enterprise: Demerger,
Divestment & Downsizing**



Stuart R. L. Smith
General Manager
Business Services
*ICI Chemicals &
Polymers plc*

ICI plc, the UK's largest chemical company, was formed by the merger of four companies. In 1993 it demerged into two parts, one company containing the biotechnology and specialty products, the other the chemicals, paints and explosives products. Both have had a heavy people-development emphasis, facilitating an increasing rate of change to team working, reskilling, globalization and loyalties. The reorganized enterprise seeks technical articulation, not technological enthusiasm from its IS community; and reskilling rather than the updating of IT personnel is becoming a key to the facilitation of change.

10:15am-10:45am
Coffee Break

10:45am-11:30am
IT Secrets in a Changing CIA



Michael Dillard
Chairman, Information
Policy Committee
*Central Intelligence
Agency (CIA)*

The CIA has gone through a period of tremendous change, placing unique demands on the Agency's worldwide information services. The world environment, reductions in staff and budget, and changing priorities are causing major impacts on the very fabric of the Agency. Mike Dillard is leading the Agency's enterprise developments within the Office of Information Technology and will discuss the impact of restructuring, the "Blue Ribbon Panel," creation of the Agency's IT principles, the drive for common environments, technology changes, and the major shift to a client/server environment.

11:30am–12:15pm
Operating a Healthy IT
Organization in a Changing
Healthcare Environment



John Glaser, PhD
 Vice President
 Information Systems
*Brigham & Women's
 Hospital*

The healthcare delivery system is facing profound pressures to reduce costs and improve the quality of medical care. The Brigham and Women's Hospital has cut the average response time for a life-threatening patient condition from five hours to twelve minutes; reduced the likelihood of an adverse, preventable patient care error by a factor of six; and used clinical expert systems to stop an average of 90 ineffective or harmful medication orders per day, while supporting very high degrees of integration and intelligent process management and restructuring an extremely complex, high stakes set of processes.

12:15pm–1:30pm
Luncheon

1:30pm–6:30pm
Small Group Discussions,
Networking & Recreation

The "Virtual Expertise" Organization



Joseph R. Cleveland
 Vice President &
 General Manager
*Martin Marietta
 Internal Information
 Systems*

A model for providing commercial IT services internally.

6:30pm–7:30pm
Reception

7:30pm–9:00pm
Dinner, Entertainment &
Tournament Awards Ceremony

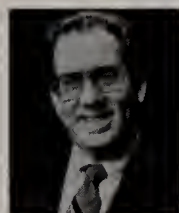
9:00pm–12:00am
Hospitality/Networking

Tuesday, March 14

7:30am–8:15am
Breakfast

8:15am–9:00am

High-Tech, High-Touch, High-Quality



Paul Kahn
 Chairman & CEO
SafeCard Services, Inc.

The technologies of information and communication have enormously expanded the capacity of organizations to segment markets; downsize; streamline their organizations; and identify and communicate with customers and prospective customers. Technology makes closer connections with customers possible, but it doesn't make those closer connections inevitable. The interpretation of information and communication with customers are quintessentially human capabilities. Getting that combination of technological and human capability right is the criterion for quality products, quality services, and a quality organization.

9:00am–9:45am
The Changing Role
of IT Professionals
in Fluid Organizations



Susan S. Kozik
 Vice President
 CIGNA Technology
 Services
CIGNA Systems

CIGNA's massive IT organization has undergone extensive reengineering resulting in flattened IT organization levels, replacement of hierarchical management structures, redrawing/eliminating organizational boundaries and increasing the individual empowerment of IT professionals. CIGNA is seeing the emergence of a new type of information technologist who combines a broad spectrum of business and technical knowledge with the flexibility to react quickly to changing

needs in a fluid organizational structure. The presentation will focus on the need for IT and users to change their mind-sets, acquire new skills, and to make a multidisciplinary business/IT team work more effectively.

9:45am–10:15am
Coffee Break

10:15am–11:00am
Concurrent Sessions

11:15am–12:00pm
Concurrent Sessions: Repeated

12:00pm–1:30pm
Luncheon

1:30pm–2:15pm
Concurrent Sessions

2:30pm–3:15pm
Concurrent Sessions: Repeated

3:15pm–3:30pm
Coffee Break

3:30pm–5:30pm
IT: The Hinge of Radical Change



James A. Champy
 Author & Chairman
CSC Consulting Group

The real test of reengineering business process is in implementation. CIOs must keep past, present and future technology on track as they manage their staffs, reposition IT in support of business reengineering initiatives, and drive technological innovation to exploit new operating and business opportunities. Jim Champy will discuss the imperatives of reengineering work — and management styles — in the reorganized entity. Each attendee will receive a copy of Champy's new book.

5:30pm–6:30pm
Reception with Jim Champy

Wednesday, March 15

7:00am-8:00am

Breakfast

8:00am-8:45am

Raising the CIO's Marketing IQ



Kevin J. Clancy
Chairman
*Copernicus: The
Marketing Investment
Strategy Group*

Marketing is more science than art and no longer the exclusive province of those positioning and demonstrating the benefits and features of an organization's products and services. CIOs must apply these same principles and techniques in promoting their services and capabilities to their internal and external customers. CIOs, particularly in restructured organizations, must raise their marketing IQs to successfully integrate IT into the enterprise. Each attendee will receive a copy of Kevin Clancy's book, *Marketing Myths that Are Killing Business: The Cure for Death Wish Marketing*.

8:45am-9:30am

The Mythology of the New IT Organization: How Not to Reengineer Yourself Into a Brick Wall

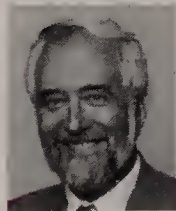


Frank Gens
Vice President
IS Management
Research
*International Data
Corporation*

There is growing belief among IT organizations in a new, mystical vision: that if IT simply restructures into cross-functional teams, retools with client/server technology, and takes on a more action-oriented (tactical) style, it will finally be seen as a valued member of the corporate family. This latest simplified recipe-for-success holds the potential for reengineering IT organizations right into a brick wall. Frank Gens will present realistic alternatives for the new IT organization.

9:30am-10:15am

Update on the Internet



Anthony M. Rutkowski
Executive Director
Internet Society

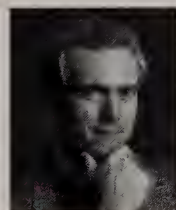
The international Internet Society is devoted to evolving the Internet and Internet technologies and applications, and to enhance their use and availability on the widest possible scale. Tony Rutkowski will talk about the issues and strategic advantages offered by the Internet. Learn how organizations, professions and individuals worldwide can more effectively collaborate and how products and services are being electronically marketed.

10:15am-10:30am

Coffee Break

10:30am-12:00pm

Back to the Future: Making Clocks, Not Telling Time



Jim Collins
Author &
Faculty Member
Stanford University

Jim Collins carefully researched over their entire life spans a group of 18 truly exceptional companies that have outperformed the general stock market by 15 times since 1926. Drawing upon a ground-breaking six-year project at Stanford University, Collins and his colleague, Jerry Porras, sought to answer one basic question: What makes the truly exceptional companies different from other companies and separates them from their rivals? This session will describe the timeless qualities and characteristics that have consistently distinguished outstanding companies.

CONCURRENT SESSIONS

Each Corporate Host will provide a concurrent session. Each session will be offered twice, and you will be able to attend a maximum of four sessions.

Enhancing & Renewing Legacy Systems to Meet Today's Business Requirements

Amdahl Corporation

Organizations have made substantial investments in the development and continued support of legacy systems. However, intensifying business demands and competition require that these systems be able to respond to enhancements in increasingly short time frames. Amdahl will address how corporations' Information Technology organizations must address this situation through the use of new mainframe and client/server tools.

Switched Networks: The New Network Paradigm



Gary Bowen
Executive Vice President
Sales
Bay Networks, Inc.

The evolution to the next generation switched internetwork combines the core technologies of routing and switching through a standards-based, open architecture. As corporations around the world redefine their networking strategies, they are shifting to a switch-based networking standard that incorporates both switching and routing technologies (including virtual LAN routing). These transitions will shape future network architecture. In addition, the deployment of a switched networking infrastructure meets the challenges of increased network performance and availability, greater flexibility, and reduced network management complexity, while protecting existing network investments.

Middleware: Transforming the Economics of Data Processing



Jon Deutsch
Technical Director
Corporate Marketing
Information Builders Inc.

It seems everyone is moving to client/server open systems. However, early experiences — well documented in the press — appear to illustrate more failures than successes due to complex and immature technology, and the sheer number of participating platforms, networks, and tools. In response, middleware products have emerged to provide a single, standard interface through which “open systems” interoperate. This presentation examines multiple cases for middleware and the many forms it takes in delivering the crux of open systems interoperability.

Rules for Successfully Deploying Client/Server Applications for the Enterprise

Gupta Corporation

Client/server software will play a key role in the ability of IT executives to rapidly improve the responsiveness of their corporate organizations. However, implementing successful client/server applications can be a more formidable task than planning for them. Gupta Corporation will propose a clear set of rules to follow to ensure that client/server projects are “enterprise savvy,” readily accepted by users and meeting the productivity gains expected of them.

Transforming the IT Organization



Stephen Hamilton
Director
Strategic Consulting
Hewlett-Packard Company

Information systems are going through a period of very rapid and wide scale transformation brought about by the unprecedented shift to

client/server technologies. With these new technologies comes the opportunity to make far-reaching changes in the way companies are organizing and managing their information technology assets. This session will review models of successful IT organizations in a client-server environment, and examine issues in transforming the IT function to embrace these technologies.

The CIO in the Reorganized Enterprise: Providing Leadership through Solution Systems



Donald P. Hinman, PhD
Business Development Executive
InfoBase
Courtesy of Acxiom Corporation

The CIO is uniquely positioned to turn the raw material of data into the finished product of solutions. Leading the charge to turn data into information, the CIO can provide a complete picture of the customer, and access and analysis capabilities that allow data to be transformed into a complete business solution. This session will include examples of how companies are making this happen today and the steps necessary to make it a reality in your own organization.

Surviving and Optimizing the Network Paradigm Shift



Robert Koontz
Vice President & General Manager
Racal Managed Network Services Division
Racal-Datacom, Inc.

One of the most significant changes affecting IT executives and their organizations is the shift from privately owned networks to the intelligent, public network. What technologies are shaping this move and how are they best utilized? What types of applications, information and services will be available to your users — regardless of location? Will you have to outsource all or portions of your network to remain competi-

tive, and how will IT executives manage, control and secure access to these essential network products and services?

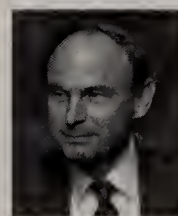
Managing the Reengineering Process



Paul Lawryk
Market Development Group Manager
Sun Microsystems, Inc.

IT managers are increasingly challenged to hold or cut total corporate computing costs and retain their companies' competitive advantage over rivals. Reengineering describes an overall strategy to meet these challenges and re-evaluates IT resources to see how cost effectively they meet current business requirements. CIOs can then evolve those resources to maximize cost-effectiveness and maintain their businesses' competitive advantages. Sun Microsystems will discuss the key issues of successfully managing IT in the reorganized enterprise, both from our perspective and our customers.

The CIO of the 21st Century



Bernard “Bud” Mathaisel
Director
Ernst & Young Center for Business Innovation
Ernst & Young LLP

Although they know they can't continue to live by the same objectives and achievements that made them successful in the past, today's progressive IT leaders are proving that rumors of their demise are greatly exaggerated. Information users have been able to cut out IT. This “disintermediation” is creating a new role for the CIO as infrastructure-builder. The CIO must be concerned not with architecting individual solutions, but with creating the common infrastructure to enable effective development by others.

Client/Server Implementations: Who's on First?



Dave Morehead
Director, Research
IMRS

Surveys confirm that the finance department is the first place that client/server systems are rolled out in the corporation. What happens when mission-critical applications meet leading-edge technology? What platforms and operating systems have a proven track record? Real-world case studies — combined with current and forecast survey data — will be used to demonstrate how to maximize software and hardware investments while implementing successful high-transaction client/server accounting and financial management systems in the global enterprise.

Communications as an IT Tool



Dennis J. Murphy
Vice President
Telecommunications
Goldman, Sachs & Company
Courtesy of PictureTel Corporation

IT professionals must deliver bottom-line business value and provide the latest competitive-edge solutions, all at an accelerated pace, with right-sized, reorganized resources. This session will examine how videoconferencing, from the conference room to the desktop, can help meet this challenge, and will include real examples of how teams can pull together to deliver on time, on budget.

Mobilizing IT to "Change Faster Than Change"



Cheri Musser
Vice President
Development & Quality
Texas Instruments

Do you have an IT Process Map? How do you plan to support enterprise-wide component reuse? Is your IT organization really customer-focused? Texas Instruments (TI), well known for its reengineering success and resulting dramatic business improvements, reengineered their own IT organization, clearly defining both technical and application architectures. Learn how TI applied reengineering principles to better align IT with the business units, and discover how the heart of their ongoing strategy — changing to reusable component-based development — has enabled IT at TI to "change faster than change."

Controlling the Clandestine Costs of Client/Server Computing



Alan Paller
Head, Unix Strategies
Computer Associates International, Inc.

How much will client/server migration really cost? All CIOs planning client/server projects ask this question, and the answers they receive are likely to be far below the actual costs. Alan Paller will present data from more than a dozen studies about the true costs of client/server computing. Every attendee at this session will leave with lists identifying the sources of the most common cost estimating errors and the techniques pioneering users have identified to cap some of the unexpected costs.

Using Process Management to Reengineer the Business of IT



Richard J. Pleczko
Vice President
Process Management
Products
LBMS, Inc.

IT organizations are key participants in (and often leaders of) corporate business process reengineering (BPR) initiatives. But many of these IT organizations are in need of some internal reengineering. In this session, learn how process management can be used to reengineer the business of IT and increase quality and product.

A Telecommunication CIO's Perspective



Jon J. Ricker
Assistant Chief
Information Officer
BellSouth
Telecommunication
Courtesy of
Martin Marietta
Corporation

Creating Applications to Support the Reorganized Enterprise



Geoffroy T. Roach
Director
Tools Marketing
Informix Software, Inc.

Client/server is often hailed as the technology that will introduce a new level of flexibility into an organization, but many companies have yet to experience the benefits. The business rationale for the move to client/server and the current state of tools which will be characteristics of the second generation of enterprise-level applications will be discussed. An action plan will be presented to start organizations on the path to implementation.

Moving to the Open Enterprise: The Challenge of Change



Jim Ryan
Vice President
Information Management
Group
*Data General
Corporation*

How does a company undergo the metamorphosis from the old to the new? Regardless of the name given to the methodology — reengineering, business process reengineering, or process innovation — there is broad agreement that a successful transition depends on a high level of synergy among organizational structure, business processes, and information technology. With any approach, managing change is the challenge. Corporate change can be planned for, managed, and controlled. This session focuses on the role of IT as a critical change agent in the transition to the open enterprise.

Re-Inventing the CIO



Phil Andrews
Principal
EDS

Today's enterprises have shifted IT into high gear, looking to IT as a strategic weapon against global competitors and as a potent driver in transforming themselves. A new technology leadership role is emerging. For many, the new number-one objective is to use IT strategically for a competitive edge in every aspect of performance. In this session, real-world reengineering examples will be used to illustrate what this means for the CIO, both personally and professionally.

Managing IT in a Hyper-Growth Environment



Tom Thomas
CIO
*Dell Computer
Corporation*

Change, the only constant in the IT industry, affects the costs of operations, administration, and support. Organizations adopting a life-cycle cost philosophy and looking beyond hardware and software have enjoyed increased productivity and reduced costs. Dell — the fastest growing company in the Fortune 500 — has managed IT in its hyper-growth environment. Tom Thomas will share how to focus on your core mission while reducing costs and will provide specific examples of how other major corporations have successfully applied cost-reduction programs.

Disaster Avoidance and the Client/Server



Dave Vieau
Vice President
*American Power
Conversion*



Bob Hansmann
Product Manager
Disaster Recovery
Palindrome

CIOs want to think about the unexpected before irreparable damage occurs to their networking operations. As we witness the power struggle between natural disasters and concrete scientific protection plans, maintaining a fool-proof system in today's environment may seem unattainable. Assuring a continuous power supply to the network in the event of a disturbance and safeguarding the system literally equate to saving a substantial amount of a company's assets. Experts in the field will discuss all aspects of power control.

COMPANION PROGRAM

Sunday, March 12

7:00pm–9:00pm
Networking Reception

Monday, March 13

9:30am–10:30am
Companion Breakfast

12:15pm–1:30pm
**Luncheon with Conference
Participants**

1:30pm–5:30pm (Optional)
**Living Desert/
Aerial Tramway–Vista**

6:30pm–7:30pm
Reception

7:30pm
**Dinner, Entertainment &
Tournament Awards Ceremony**

Tuesday, March 14

7:30am–8:15am
**Breakfast with Conference
Participants**

12:00pm–1:30pm
**Luncheon with Conference
Participants**

5:30pm–6:30pm
Reception with James A. Champy

Wednesday, March 15

7:00am–8:00am
**Breakfast with Conference
Participants**

Reacquaint yourself with old friends and meet new ones at an informal Monday morning breakfast for companions. A CIO companion guide will greet companions, review the planned activities and answer any questions. Monday afternoon we will ride the Aerial Tramway, the longest double funicular tramway in the world, and walk in the Living Desert. Enrollment in the companion meal program is necessary to attend meals, receptions and entertainment. The companion program does not include conference session attendance.

Corporate Hosts



Acxiom Corporation offers a unique matrix of services, software and tools that transform company data into customer knowledge. Multiple internal databases are integrated with external information to drive powerful knowledge-based decision support applications. The systems are of value to companies with large database requirements and to those evaluating legacy systems, implementing client/server computing or reengineering operations. Acxiom, founded in 1969, is based in Conway, Arkansas, and maintains offices throughout the US and UK.



Amdahl Corporation was founded in 1970 and has built an enviable reputation for providing high-quality data processing systems and services used in both IBM-compatible and open computing environments. Today, Amdahl is a major supplier of large-scale mainframe computers, data storage subsystems, UNIX system servers and software, applications development and production software and a broad array of educational, consulting and systems support services.



American Power Conversion is the world's leading supplier of uninterruptible power supplies and related software designed to protect LANs, telecommunication, point-of-sale, and other computer based systems from power problems such as brownouts, blackouts, surges, spikes, and line noise. APC offers a complete solution including: Back-UPS, the best value in power protection; Smart-UPS, high-performance UPS's for networks; Matrix-UPS, modular UPS for network datacenters; PowerNet SNMP family of management products, Line-R, high-performance power conditioners; PowerChute, UPS Monitoring software solutions; SurgeArrest, network-grade surge suppression.



Bay Networks, Inc. is the leading worldwide supplier of a full range of highly available, multiprotocol routers, intelligent hubs, high-speed switches, and sophisticated network management products for organizations building enterprise-wide information networks. The company was established in October 1994 upon the successful merger of SynOptics Communications and Wellfleet Communications. Bay Networks offers the most comprehensive line of networking products available today and the vision and capability to help you migrate to the future of switched internetworking.



Computer Associates International, Inc. is the leading independent software company in the world. CA develops, markets and supports integrated systems management, information and business applications software for a broad range of mainframe, midrange and desktop computers. CA serves the international marketplace through direct operations in 29 countries.



Data General Corporation is an open systems company specializing in servers, storage products and services for information systems users worldwide. Since the introduction of AViiON servers in 1989, open systems sales have grown to nearly 90% of our product revenues. AViiON servers, the DG/UX operating system, and CLARiiON storage form a robust foundation for delivering common sense solutions to large enterprises. AViiON is one of the leaders in the UNIX market and in customer satisfaction.



A Global 500 company, **Dell Computer Corporation** designs, develops, manufacturers, markets, services and supports a complete line of personal computers compatible with industry standards. Dell is the world's leading direct marketer of personal computers and one of the top five personal computer vendors in the world. With headquarters in Austin, Texas, and 16 international subsidiaries, Dell products and services are now available in more than 120 countries worldwide.



EDS helps customers create and use information to enhance new products and services, serve their customers better and improve the economics with their business. EDS employs a full range of services from consulting to systems management to help customers realize that value. In 1993, EDS reported revenues of \$8.6 billion and had more than 70,000 employees in 35 countries.



Ernst & Young LLP is the leading integrated professional services firm in the US, and among the largest in the world. Our management consulting practice is a leader in business process reengineering, performance improvement and information technology. The Ernst & Young Center for Business InnovationSM located in Boston, is leading the industry in new ways to empower business through people, process, systems and technology. And our Center for Business Transformation and Technology located in Dallas is dedicated to continuing development of world-class process management tools.



Gupta Corporation created the PC client/server systems software market by delivering the first suite of SQL database products and GUI application development tools exclusively for networked PCs. Smooth integration of Gupta applications and databases into the enterprise is provided via a comprehensive array of connectivity products. Gupta has consistently worked to satisfy the critical requirements of corporate data processing with the flexible, responsive technologies associated with PC networks. Gupta's market-leading PC client/server products will propel anticipated 1993 revenues to \$57 million.

Corporate Hosts



Hewlett-Packard is an international manufacturer of measurement and computation products and systems recognized for excellence in quality and support. HP is the second-largest computer company in the United States with computer revenues in excess of \$15.6 billion in its 1993 fiscal year. The company's products and services are used in industry, business, reengineering, science, medicine and education in approximately 110 countries. HP has 96,200 employees and had revenue of \$20.3 billion in its 1993 fiscal year.



IMRS develops software for enterprise-level financial management applications in a client/server environment. Founded in 1981, the company's integrated approach to financial management provides access to summarized, enterprise-wide views and underlying supporting detail. IMRS focuses on end-user needs while working in partnership with IT professionals to address the diverse transaction processing, accounting, budgeting and information access needs of over 1,800 corporations. With availability of worldwide support and services, IMRS provides a complete international solution set.



Information Builders is recognized as a leader in data access technology and business analysis tools. The FOCUS fourth-generation language and reporting tools and the EDA/SQL middleware technology allow organizations to seamlessly access, transform, analyze and visualize data throughout the enterprise. Backed by expert consulting, education services and strong partnerships, Information Builders delivers flexible and scalable solutions for client/server application development, data warehousing, and business intelligence systems.



Informix Software, Inc. is the leading supplier of high performance, parallel processing database technology for open systems. Informix's database servers are the number one choice of hardware manufacturers for publishing Transaction Processing Council benchmarks for UNIX-based systems. Informix products also include development tools for creating client/server production applications, decision support systems, and ad-hoc query interfaces, and connectivity software that allows information to be shared transparently from PCs to mainframes within the corporate computing environment.



LBMS, Inc. is a leading provider of process management tools for Fortune 1000 organizations. The company's products leverage benefits of workgroup computing and open partnerships to address the complex demands of application development in organizations with heterogeneous computing environments. LBMS' products can be used individually, as components in a mixed-vendor client/server environment, or together in a seamless application development toolset. LBMS tools operate in an open LAN server-based repository system ensuring consistency, integrity and completeness in the application development process.

MARTIN MARIETTA
INFORMATION GROUP

From designing an automated fingerprint identification system for the FBI, to creation of lifelike computer generated military training systems, to guiding the industry giants of overnight delivery and national food distribution with information handling expertise, the Information Group of **Martin Marietta Corporation** designs, develops, integrates and operates information systems, simulation and automated test systems for numerous government and commercial customers. Created in April 1993 from infotech elements of Martin Marietta Corporation and the former GE Aerospace businesses, the Information Group posted \$1.4 billion in sales during its inaugural year.

 PICTURETEL

PictureTel Corporation, the world leader in videoconferencing technology, is "redefining the way the world meets." The company develops, manufactures and markets a full range of visual communications solutions from the desktop to the auditorium, supported by offices in over 100 cities in 50 countries. To provide products and solutions that are in step with the strategic technologies of the '90s, PictureTel is working with the leaders in computing, telecommunications, software and the most respected organizations in a variety of vertical markets.

Racal-Datacom™

Racal-Datacom, Inc. is an independent provider of data communications products, systems and services designed to meet the business objectives of corporations and government organizations. The company offers solutions for the implementation, integration, management and support of enterprise networks from the desktop through local area and wide area networks. Racal-Datacom offers a broad range of LAN/WAN products, all managed by a single network management system and all supported by a full range of network services.

 Sun

Sun Microsystems, Inc., founded in 1982, is a Fortune 120 company and a pioneer in the general-purpose workstation market, having launched the now popular concept of open systems. Sun's client-server computing solutions include networked UNIX workstations and multi-processing servers. According to analysts, Sun ships more UNIX systems worldwide than anyone.*

**Source: International Data Corporation*

 **TEXAS
INSTRUMENTS**

Texas Instruments provides a broad range of business and information technology products and services that allow companies to quickly respond to market dynamics. TI's application development software product, Composer by IEF™ uses model-driven development to rapidly design, build, test, install and maintain client/server and terminal-based business applications for a wide variety of platforms and databases. Composer is the newest generation of TI's industry-leading IEF for Client/Server. The world's largest companies generate applications with Composer to add competitive advantage and enable change within their information systems.

TO ENROLL CALL 800-366-0246



Managing IT in the Reorganized Enterprise

Sunday, March 12–Wednesday, March 15, 1995
Westin Mission Hills ■ Rancho Mirage, California

Please print and complete this form in its entirety, then forward to the attention of Executive Programs. **Fax** to 508-879-7720. **Call** us at 800-366-0246. **Mail** to: CIO Communications Inc., 492 Old Connecticut Path, Framingham, MA 01701.

NAME _____

TITLE _____

COMPANY _____

ADDRESS _____

MAIL STOP _____

CITY _____

STATE _____

ZIP CODE _____

PHONE _____

FAX _____

E:MAIL _____

WHAT IS YOUR INDUSTRY? _____

YOUR NAME AS YOU WANT IT TO APPEAR ON YOUR BADGE _____

NAME OF COMPANION (IF PARTICIPATING IN COMPANION PROGRAM) _____

Please copy enrollment form for additional registrations.

ENROLLMENT FEE

☐ IS Practitioners/Executives

If you are a CIO, IS executive or hold another executive position, the fee is **\$1,395**.

☐ Government/Military

The fee, which includes your hotel for three nights, is **\$1,695**. Do not make your own hotel reservations, **CIO** will make them for you.

☐ Sales/Marketing/Consulting

If you hold a sales, marketing or consulting position, the enrollment fee is **\$5,000**. **CIO** will make the final determination of this category.

PAYMENT INFORMATION

☐ Check enclosed ☐ Bill company

☐ P.O. # _____

☐ Credit card # _____

☐ AMEX ☐ VISA ☐ MC Exp. _____

Signature: _____

CIO reserves the right to decline enrollment to any registrant.

OTHER ACTIVITIES

Monday afternoon activities include:

☐ Golf Tournament: \$138

Golf handicap _____

Golf must be prepaid.

Club rental is available.

Golf enrollments will be accepted until 3/6/95.

☐ Tennis Tournament

(Complimentary)

Living Desert/Aerial Tramway–Vista

☐ Attendee: \$42 ☐ Companion: \$42

☐ COMPANION PROGRAM (\$195)

Companions must be enrolled in this program to attend any conference-related functions. Includes all scheduled meals, entertainment and companion get acquainted breakfast. Conference session attendance not included.

Please
Attach
Business
Card Here

ATTIRE

Casual! Please, no suits, ties or business attire!



HOTEL ACCOMMODATIONS

A block of rooms has been reserved at the Westin Mission Hills. We urge you to make your reservations early by calling the hotel at 800-228-3000. Additional rooms are available at Rancho Las Palmas (800-458-8786). Be sure to identify yourself as part of the **CIO** conference to receive the conference rate. Please make your reservations early. All unreserved rooms will be released on 2/11/95. Hotel reservations/cancellations and charges are your responsibility. **CIO** will make hotel reservations for government/military participants.

TRANSPORTATION

American Airlines is the official conference carrier. Call American at 800-433-1790 and reference Star File #S0435D5. AVIS is the official car rental provider. Call AVIS at 800-331-1600 and reference K027830.

ENROLLMENT FEES

All enrollment fees must be paid in advance of the meeting. Fee includes conference sessions, concurrent sessions, corporate host displays, conference materials and scheduled meals. Transportation, hotel and recreation are your responsibility.

CANCELLATION

You may cancel your enrollment up to 3/6/95 without penalty. **No refund or credit will be given for cancellations received after 3/6/95.** You may send a substitute in your place.



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In this issue of *CIO*, we are pleased to report the stories of the six organizations that are recipients of the 1994 ESPRIT Awards, honoring excellence in strategic partnering for return from information technology. The ESPRIT honorees represent a cross section of industries; each has demonstrated the business value of IT and has something to teach us all.

It should not go unnoticed that a number of IT companies share in these success stories as well. Business challenges often cannot be solved without IT products and services and the companies that provide them.

The information-technology vendors providing solutions to ESPRIT Award recipients read like a "Who's Who" list, including AT&T, Digital Equipment, IBM, Informix, Lotus, MCI, Microsoft, Novell and Software AG. For more information on specific IT solutions that helped ESPRIT Award honorees achieve their stellar status, please refer to the Technical Profiles that appear in these stories.

Congratulations to the 1994 ESPRIT Award recipients and their IT-vendor business partners!

Wayne L. Wray

P.S. Don't miss our next CIO Perspectives conference, "Managing IT in the Reorganized Enterprise," to be held March 12-15 at the Westin Mission Hills in Rancho Mirage, Calif. To register, please call us toll free at 800 366-0246.

Coming In CIO

Winning Is Everything

When CIOs negotiate with suppliers, the stakes are hardly trivial. New-age management gurus may speak of negotiations in which everyone leaves the bargaining table happy, but some experts doubt that's possible. A good negotiator comes to the bargaining table with an agenda and the determination to win as much as possible. A good negotiator knows that winning is the name of the game.

Homeward Bound

People have been discussing the pros and cons of telecommuting for years, but recently the Clean Air Act, the Los Angeles earthquake and some successful corporate trials have inspired many companies to consider the option more seriously. While technology is critical to supporting such an effort, some big questions remain: "Who's going to manage all those dial-up lines?" "Who fixes the hardware when it breaks?" and "What about security?"

All in the Family

Franchises face the difficult task of getting hundreds or thousands of individuals to present the same face to the public. Since the desire to be different is built into the human psyche, that's not always easy. *CIO* explores how IT executives manage day-to-day activities in the fiefdom of franchising.

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TRENDLINES

VIRTUAL REALITY

SUPPORT FOR THE GRAND ILLUSION

Should Uncle Sam strap on a head-mounted display and dive into cyberspace? A National Research Council committee thinks so.

The Committee on Virtual Reality Research and Development, which is funded by a consortium of federal agencies, says the U.S. government should launch a broad-based program to boost VR technology. A wide-ranging initiative could lead to many applications in industries beyond entertainment, the committee concluded after a two-year study.

The areas showing the most promise: training, hazardous operations, product design, manufacturing, marketing and health care. While some form of VR is already being used in these fields, the applications are limited, and it remains unclear which tasks are best-suited to the technology.

But before such judgments can be made, more research is needed to understand how people will interact with virtual-reality systems, how the systems will affect work performance and what kinds of problems could arise from extensive use of VR. For instance, people using head gear often suffer from chronic fatigue,



lack of initiative, drowsiness, irritability and nausea.

"If the comfort of VR systems cannot be radically im-

proved, the practical usage of these systems will be limited to emergency situations or very short time periods," the committee's report says.

Assuming those obstacles can be overcome, the committee proposes several ways the federal government might help advance VR technology. For example, it could fund collaborative work between industry and higher education to develop network standards for large-scale distributed virtual environments. The govern-

ment can also play a role in developing communications networks that enable people to interact in shared virtual worlds from different locations. Current technology can't support real-time applications that enable users to see, hear and touch as they would in real environments.

But some VR observers aren't thrilled with the prospect of Washington increasing its support for the nascent industry. "It might have a counterproductive, chilling effect," says William Caffery, director of advanced technology groups for the Gartner Group, a Stamford,

COMBATING HIGH ANXIETY

Poor Jimmy Stewart—he couldn't save Kim Novak from plunging off that roof in *Vertigo*. If only he'd been wearing his virtual-reality gear, things might have been different.

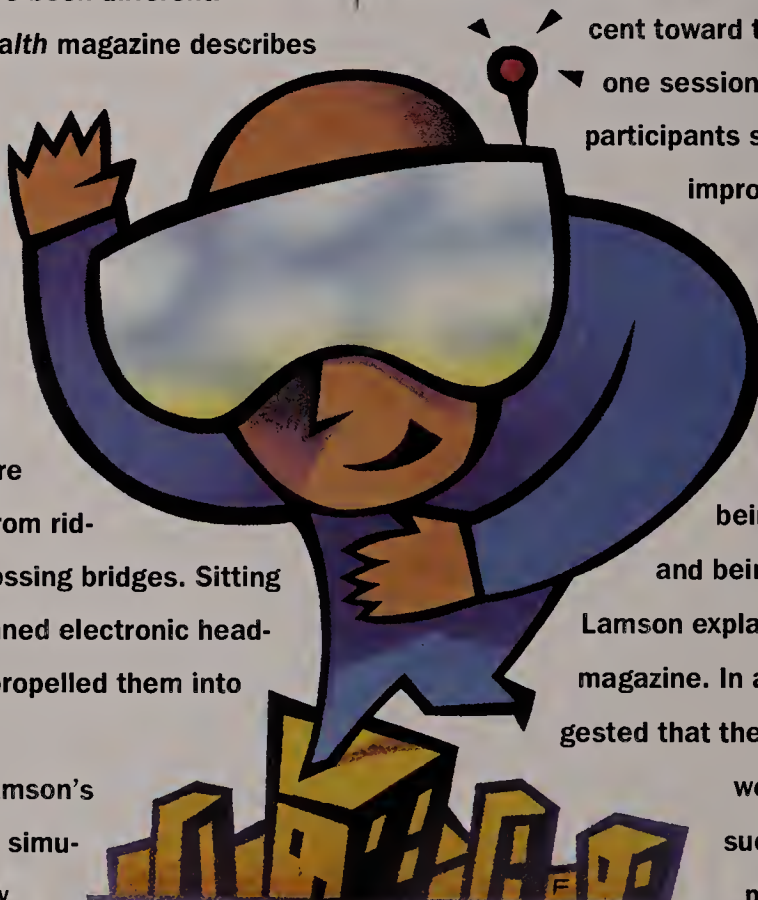
A recent item in *Health* magazine describes how a California psychologist is using virtual technology to help acrophobics get over their fear of heights. Ralph Lamson rounded up three dozen people who were afraid of everything from riding in elevators to crossing bridges. Sitting in his office, they donned electronic headsets and visors that propelled them into a virtual landscape.

Using a joystick, Lamson's subjects were able to simulate crossing a narrow

plank high over a street and then jumping onto a bridge hundreds of feet above water. While participants' blood pressure and heart rate increased at the beginning of the exercise, both had dropped by about 15 per-

cent toward the end. After just one session, all but three participants showed some improvement.

"What virtual reality does is allow people to make the connection between being in high places and being unafraid," Lamson explained to *Health* magazine. In addition, he suggested that the treatment might work for conditions such as claustrophobia. ■



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TRENDLINES

Conn., consulting firm. If the government is ready to pump dollars into R&D projects, private investors may be reluctant to do likewise, Caffery says. The fear of backing a technology or standard that fails because the government embraced a competing one could scare off some investors.

Whatever the government decides, Caffery believes VR technology—still in “the pre-Kitty Hawk days”—will generate “tens of billions of dollars within 10 years.” ■

—Peter Fabris

YOU KEEP CALLING WILDFIRE

Computers keep getting smaller and smaller—secretaries don't. And that's been a problem for mobile professionals, who need someone to personally look after their schedules and messages while they're on the road. Wildfire Communications Inc. says that its namesake product fulfills many of those functions as well as or better than other electronic assistants do. And unlike its cold, impersonal competitors, Wildfire gives you something to talk to.

Physically, Wildfire is a computer system that is installed at the customer's office and connected to the public telephone network via

a T1 line. Users call a single number and verbally direct the system to screen and route incoming calls, forward calls to any designated phone number, place calls, and maintain and update an extensive contact list. The system also provides a “virtual hallway” where users can interact with colleagues engaged in Wildfire sessions, simply by asking, “Who else is around?”

If the product isn't quite human, it's a hell of a lot cuddlier than your average voice-mail system. The company's press material sounds almost like a manual for getting to know your new basset hound: “You build a relationship with Wildfire by providing the in-

formation it needs to perform its job. Wildfire knows your work habits, events and activities, and recognizes busi-

ness associates, friends and family by voice and by name.... You can talk to Wildfire using conversational language, and it responds in its own distinctive voice.”

The average cost of the system is under \$2,000 per user. For information, call 1 800 WILDFIRE (Internet: info@wildfire.com). ■



Women in IS



1/3 of IS employees are women...

...while only 1/12 of IS executives are women

FEMALE CIOs

STILL FEW AND FAR BETWEEN

A quick review of past covers of *CIO* magazine attests to the fact that women are making it to the top in IS careers. GE's Helene Runtagh, Xerox's Patricia Wallington, Du Pont's Cinda Hallman...the list goes on. But not on and on. And therein lies the problem, according to both observers and practitioners in the field: In many IS organizations, the glass ceiling remains uncracked no matter how many female heads batter against it.

The statistics tell the tale. A recent study by *Open Computing* magazine, sponsored by the Society for Information Management, shows that while women represent one out of three employees in corporate IS

organizations, they hold only one in 12 CIO positions. Deloitte & Touche came up with similar findings in a report published last year.

One person who was not surprised by those results is Nancy S. Alimansky, an associate professor at the Lesley College School of Management in Cambridge, Mass. Alimansky, who teaches information systems and microcomputer management, has been collecting case histories of women in IS management. Her subjects are mostly longtime practitioners who achieved their status following a serendipitous route. But for every success story, there are many more who are getting nowhere, she says, even though they have taken the prescribed courses and adhered to the traditional career path.

“The women in middle-management positions said there was a cap that they weren't able to get through,” says Alimansky. “There's a lot of acceptance for getting young women into entry-level

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el technical positions in IS, but something happens when they try to move up."

That something may be the old—largely discredited—bugbear about women and technical subjects. When it comes to technology, "women have to know it already—men can learn it," says Alimansky. That means women interested in IS tend to pursue training in computer science or systems analysis. "But that's not enough to be a successful manager," says Alimansky. "The women I spoke with felt those backgrounds

would be more inhibiting than their own liberal-arts backgrounds. The broader the experience, the better."

Ironically, at the same time women are having trouble becoming CIOs, the CIO position is becoming more reliant on traditionally female strengths. "You can't just put the CIO behind a locked door anymore," Alimansky says. "Communication skills are becoming a necessity, and women are very good at that."

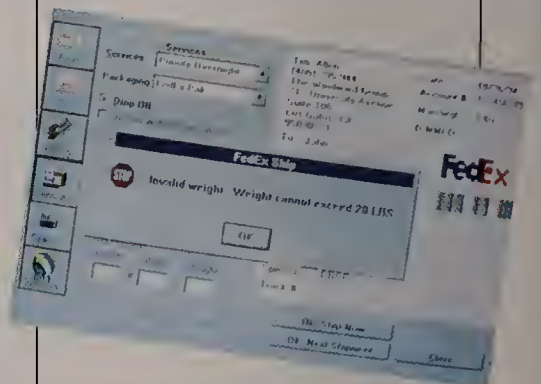
Of course, there are more female CIOs than there used to be, particularly in service

industries. In addition, the government, advocacy groups and the threat of lawsuits may bring more pressure to bear on companies to promote women in IS. Until that happens, Alimansky advises, women should pursue both business and technology skills, and try to keep a high profile in the corporation. "You can't wait for someone to knock on your door," she says.

Alimansky is interested in hearing the experiences of other women in IS management. She can be reached at 617 349-8345. ■

THE SHIPPING NEWS

Mailing an express package can be like driving through a city to the highway—you know you'll make good time once you're on the road, but getting to the on-



camp can be a hassle.

Federal Express Corp. of Memphis, Tenn., which has a long history of hastening packages along their merry way, now has a product that simplifies the front end of that journey. FedEx Ship enables customers to handle the entire shipping transaction, from printing labels to calling for a courier to tracking the package en route. T. Michael Glenn, the company's senior vice president of marketing, customer service and corporate communications, says the product will be a particular boon to smaller companies.

A Windows version of FedEx Ship will be available this quarter—followed by a version for the Macintosh—at no cost to customers. (Call 800 GO FEDEX to obtain a copy.) Federal Express has also entered into several marketing arrangements with information technology vendors such as IBM, Apple and Intuit, which will load or bundle the software with their products. And FedEx Ship will be available electronically through America Online and from CommerceNet. ■

NYC TAKES CHARGE

If a New York sheriff pulls you over and asks for your driver's license, registration and a major credit card, don't be alarmed. The sheriff (probably) isn't crooked, he's just after the money you owe the city for old parking tickets.

In a pilot program, New York is trying to collect from parking scofflaws when they are at their most vulnerable—that is, under the keen eye of a law officer. When a sheriff stops a

motorist or spots an illegally parked car, he or she runs a license-plate check, which may uncover a hefty tab in unpaid tickets. Since most people don't carry around big wads of cash, scofflaws have to watch as their cars are impounded, resulting in additional fees for towing and storage.

Under the new system, if the sheriff discovers outstanding debts totaling more than \$230, the driver can pay on the spot with a credit card. Of course, parking scofflaws can't be counted on to have irreproachable credit

records, so the officer first runs a check using a credit-card terminal, printer, wireless modem and RAM Mobile Data's wireless data-communications service, which links to MasterCard International Inc.'s Automated Point-of-Sale Program (MAPP).

With a simple swish of the pen and an OK from MAPP, New York motorists can avoid additional fees and drive away with their overdue tickets behind them. ■





Now.

TRENDLINES

NEIGHBORHOOD WATCH

Now that the Republicans control Congress, aid to poor communities may drop a few notches on many priority lists. So, the Department of Housing and Urban Development (HUD) is offering community planners help in targeting their precious resources with a new computer system designed to support housing and economic-development strategies.

The system, developed jointly by MapInfo Corp., permits users to view computer-generated maps, color-coded with the latest census data to identify areas of low incomes and high unemployment.

Community organizations with basic computer hardware can access the system to see how the locality's use of federal funds meets neighborhood needs, and to plot sites for street repairs, housing rehabilitation and domestic-violence shelters.

The new system also streamlines the application and reporting process for several federal programs, enabling local governments to replace six separate documents with one consolidated submission on a diskette. ■

OFF THE SHELF

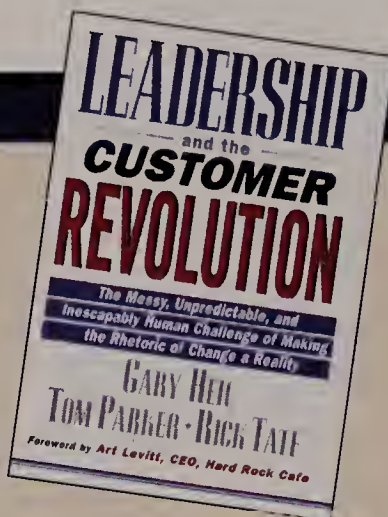
LEADERSHIP AND THE CUSTOMER REVOLUTION

By Gary Heil, Tom Parker and Rick Tate
Van Nostrand Reinhold
(New York), 1995
290 pages, \$24.95

Willa Cather tells us that there are only two or three human stories, and that these stories repeat themselves continually. The same is apparently true of business books. The story management writers have been telling over and over is one of dramatic change, and among the most popular takes on that subject of late has been leadership in the changing organization.

Gary Heil, Tom Parker and Rick Tate see leadership as the once and future issue, a credible stance since reengineering, total quality and the rest of the gods in the management-tool pantheon can't take place without it. Their book, *Leadership and the Customer Revolution*, decries the failure of leadership in many organizations today and offers a practical vision for improving the way companies deal with their employees and customers.

What makes the book particularly valuable is that it takes as its starting point not how organizations *should* operate, but how they actually *do* operate. That distinction is critical to anyone hoping to reform a system under which people do what they think is



expected of them and say what they think their bosses want to hear. Such behavior, the authors believe, is the result of a persistent emphasis on short-term solutions over long-term learning, as well as management's failure to embody corporate values and live up to their own vision statements.

More fundamentally, management fails to win employee commitment because it refuses to recognize the *human* aspect of human resources. "Instead of expecting people to separate their emotions from their work lives, we must learn to deal effectively with emotions in all our interactions," the authors argue. "Every organization is inescapably human."

To establish a new mindset within both themselves and their companies, leaders must change the very structures that brought them their earlier successes. The ultimate goal, of course, is to transform employees, particularly those on the front lines, from obedient slaves of rigid corporate policies into an empowered, informed workforce. Workers should be able to bring not only their knowledge but also their enthusiasm and their imaginations to bear on cus-

tomers service.

Not everything in the authors' message is quite so clear and obvious. For example, while the book encourages corporations to embrace nonconformity ("learning to love the weird") and respect the individual, it also praises Walt Disney Co., which earned some bad press a few years back for mandating that employees at its European theme park wear "appropriate" underwear, shave facial hair and not be overweight.

In general, *Leadership and the Customer Revolution* is an entertaining read; Heil, Tate and Parker keep things lively with anecdotes, action points and dozens of quotations. Unfortunately, they have a few annoying habits, too, like putting lots of words in quotes that don't need to be there and sprinkling their prose with exclamation points. And despite their stated dislike of jargon, they fall back too often on contemporary business-speak, phrases like "walking the talk" and "reinventing the wheel" that have become so ubiquitous in management tomes as to be positively mind-numbing.

On the whole, though, the book does a commendable job of defining what leaders must do to shape up—and shake up—their organizations. And by urging readers to consider both business sense and employee sensibility, they make manageable change a real possibility.

—Leigh Buchanan

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Doing More with Lease

Companies that decide to lease computer equipment had better be sure they're getting the best possible deal

BY JOHN E. CALLIES

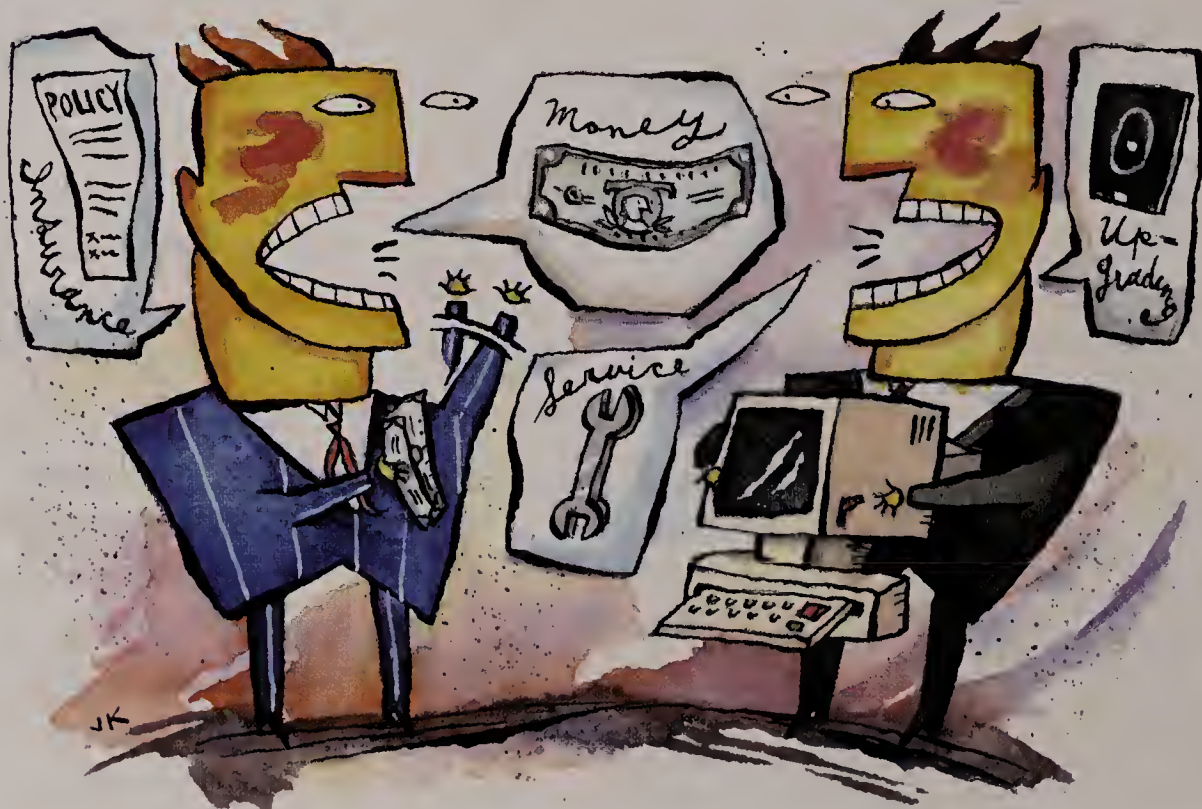
Your company is growing, and so are its IS needs. After shopping around, you have decided on the right system to support your business now and for the next few years. You have studied all the arguments for and against leasing computer equipment versus buying it and have come to the conclusion that leasing provides significant advantages.

Most of those advantages involve cost savings and flexibility. For example, because you don't own the equipment, you don't tie up large amounts of capital or lines of credit. Furthermore, your monthly payments are kept down because you pay only for the time you possess the equipment, not for the residual value after the lease expires. If your company's IS requirements change over time, you can enter into a new lease on a new system once your current lease expires. Or, if they don't change, you can probably extend the existing agreement or purchase the equipment outright from the lessor.

Once you have decided to lease the equipment, your next job is to choose a leasing company. A sensible first step is to compare the system manufacturers' leasing plans with those offered by independent lessors. Will they finance their equipment only, or outside peripherals, software and services as well? A lessor with expertise in computers and high technology—whether a captive or independent leasing company—may be better equipped to help you find the best solutions to your company's needs. And your lessor should be able to handle your total systems needs throughout the relationship.

But having the right lessor is only part of a successful leasing arrangement. You must also know what to look for—and look out for—in your contract, which is the most crucial aspect of your lease. As you review the contract with your legal counsel, keep in mind that the terms and conditions—and how they are worded—can greatly affect the ultimate cost. Here are some points you should examine carefully:

Price: While many lessees focus only on the monthly payments, don't overlook the purchase price of what you are financing, which is the major determinant of the leasing costs. Once you have agreed on the price, make sure it is stated explicitly in the contract and that you receive the benefits of subsequent price reductions. Also insist that the agreement spell out all "adders" that could creep into your bill, such as late-payment penalties, early-termination charges, exchange costs, administrative costs, insur-



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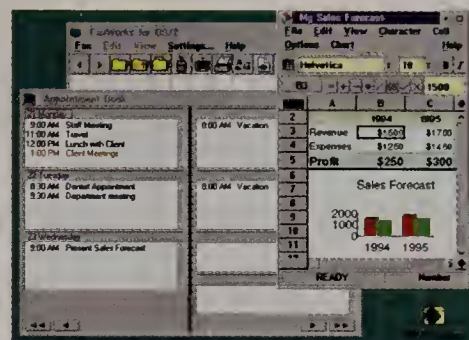
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ance fees and interim rent. These can add significantly to the bottom line.

Payment schedule: In most cases, it is better for your cash flow to schedule payments at the end rather than the beginning of the month so that you can keep the cash in your accounts for an extra 30 days.

Maintenance service: The lessor should be able to handle all repairs and upgrades, but the option of whose service to use should be yours.

Terms and conditions: Each item relates to the entire contract and should be viewed in that context. Your rights should be spelled out clearly. Here are some major terms and conditions that are important to understand:

- Who receives the warranty benefits included in the equipment's purchasing agreement? Preferably, you do—just as if you had purchased the equipment outright. Also, you will want to be listed as the licensee of any software that is financed under the lease. That way, you get all the benefits of ownership, such as notification of upgrades and access to help lines.

- Who pays the casualty insurance premiums on the equipment? How great is your exposure (the deductible)? How are losses calculated? A stipulated loss table can force you to pay more than the equipment is worth. Furthermore, if you have to pay the stipulated loss amount before your insurance company reimburses you, it can have a crippling effect. Are lease payments and insurance premiums suspended during loss periods? Make sure you know the answers to these questions before a loss occurs.

- What rights do you have with regard to upgrading? Chances are, you will want to improve your system's speed, functions, memory and software sometime during the life of your lease. Does your agreement allow you to pursue upgrades and finance them from any source, or must you deal exclusively with the original lessor? Do you need the lessor's permission to upgrade the equipment or software? Who controls the upgrades at the end of the lease?

- What is required if you wish to sublease the computer system to another

end user? Must approval for a sublease be obtained from any party other than the lessor?

- If the lessor assigns (sells) the lease to another leasing company, are the lessor's obligations to you

The terms and conditions of your contract—and how they are worded—can greatly affect the ultimate cost.

also transferred? If not, you lose important guarantees. In particular, ensure that any assignee is bound to your right of undisturbed use or "quiet enjoyment."

- What are your rights at the end of the lease? A fair-market-value purchase option is a must; it ensures that you have the opportunity to purchase the original leased equipment—not a substitute—at a fair price. In addition, whenever you desire to modify the equipment during the course of the lease or change the length of the lease, it attracts competitive financing in anticipation that you will exercise your right to purchase the equipment.

- Is your lessor required to alert you when your lease approaches expiration and to explain available extension and purchase options and prices? Before you sign a lease, get a clear picture of the consequences if you miss a decision deadline. The lessor should have clear title to the equipment so that you can renew the lease or purchase the equipment easily. In addition, you should have the option to extend the lease day by day or month by month, for individual items as well as for the complete schedule. Costs should be spelled out thoroughly.

It is also important to be wary of any "conditional" terms because they effectively negate your rights. They can also reduce the opportunity for attracting meaningful competition

if you want to upgrade your equipment or renew your lease. Therefore, avoid contract language that locks out competition for upgrades and upgrade financing or you may end up paying a higher price. Conditions that limit competition include the lessor's right of last refusal on upgrades, modifications or subleases and the lessor's right to substitute equipment at the end of the lease.

Be especially wary of conditional phrases that give control to the lessor. A partial list of such phrases includes "upon lessor's prior written consent," "lessor may," "lessor shall have," or "at lessor's option," "at lessor's sole discretion" and "in lessor's sole judgment." Obviously, terms that tend to contradict the above, such as "lessor shall not" and "at the lessee's sole discretion," are desirable, because they give you more control over your leasing arrangement. Other conditional terms that you should avoid are "subject to," "if," "provided that," "so long as" and any others that tend to limit the lessor's responsibilities or your rights. Remember: A right subject to certain conditions may be no right at all.

Obviously, negotiating a contract involves a fair amount of give and take by both parties. The guidelines listed in this article should help you reach an agreement that serves your best interests. Lessors, as well as lessees, must ensure that certain obligations and responsibilities are agreed to. The lessor needs its asset properly maintained since it is collateral; it also wants the same asset returned as was originally leased. The lessee wants undisturbed use of the equipment and the rights to purchase and/or competitively upgrade the equipment. Be prepared to make some concessions, but remain firm on those aspects that matter the most to you.

Remember, a well-negotiated and properly executed leasing agreement is a win-win situation for lessor and lessee. **CIO**

John E. Callies is general manager of end-user customer financing for IBM Credit Corp., headquartered in Stamford, Conn.



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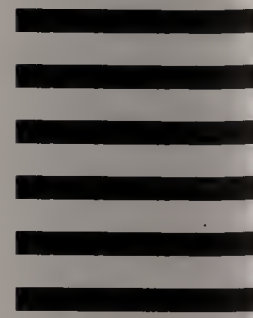
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The 1994 ESPRIT AWARDS

What's Inside:

Garage Sales

By integrating back-office functions and pushing financial and demographic information out to the front lines, this manager of parking facilities has improved customer service and saved millions in administrative costs.

PAGE 30

Making Them Pay

An automatic billing and accounts receivable system has brought in \$120 million that would have gone uncollected, helping Massachusetts erase a daunting deficit.

PAGE 36

The Soul of a New Machine Seller

Three years ago, computer distributor PCs Compleat built itself around an enterprisewide information system that would distinguish it from its competitors and ensure its success.

PAGE 42

Satisfying the Inn Crowd

A sophisticated central reservation system gave Hyatt Hotels major new staying power.

PAGE 46

On the Road Again

By giving service shops easy access to its mainframe, Caterpillar's Engine Division preserved its good name.

PAGE 50

A Seasoned Performer

The venerable retailer's bid to recoup its fortunes includes a system that overhauls the management of highly profitable seasonal merchandise.

PAGE 56

HARVEST SEASON



The ESPRIT Award

*honorees for 1994
have shown how
the seeds of business
change can be sown
in a system*

INTRODUCTION

Three years ago, *CIO* issued a call for submissions from companies that had achieved and could document real return on investment from information technology. We hoped to provide readers with examples of companies where successful systems had delivered both business value and hard-number ROI.

While such companies are amply rewarded by the improvements in their balance sheets, we thought their accomplishments deserved further recognition. So, together with management consultancy Booz-Allen & Hamilton, we created the ESPRIT Awards, honoring companies for excellence in strategic partnering for return from information technology.

The distinguished 1994 ESPRIT Award honorees seem bent upon transformation (with the recent convening of the newly reengineered U.S. Congress, who are we to try to resist the heady theme of change?). This year's recipients have at least this much in common: They have each created a system whose key attribute is the power to transform their organization's standing in its marketplace.

In the case of PCs Compleat Inc. (Page 42), the nominated system was nothing less than the company in a nutshell—a startup's ante into the mail-order PC game. In its relatively short history, PCs Compleat has managed to grow at a rapid pace while also setting new customer-service benchmarks, raising

the competitive bar for the mail-order PC industry.

Parking-lot operator APCOA Inc. (Page 30), which dominates the airport-parking business, has applied industry-leading technology to help position itself for promising new business opportunities.

Not all such business transformations spring from palmy positions of advantage or robust health. Kmart Corp. (Page 56), which is in the midst of a painful downsizing campaign, is hoping to leverage its seasonal-merchandise management system to bolster market share and profitability. Price promotions targeted at the level of individual stores translate into heftier margins on traditionally high-profit seasonal items. The Commonwealth of Massachusetts (Page 36), never before a bastion of progressive application-development methodology, staunchly a hemorrhage of non-tax revenues by knitting together on a single system scores of hitherto disunited agencies. In the process, it created a systems-development partnership framework that has been propagated to other state IT pro-

DECIDING FACTORS

The judges based their decisions on the following criteria

The Importance of Technology to Achieving Results

The judges looked at whether the business need could have been satisfied without the system — was it the only way to get the job done, the easiest way, or were there equally effective alternatives?

The Pervasiveness of Technology in the Solution

How much of the overall process was touched by the technology? Did the nominees automate a small but critical component, or was the system used in all parts of the process?

Strategic Partnering

The judges tried to reward true partnering, where the user and technology communities were fused at the hip throughout the process so that each could bring its best to the endeavor.

Return on Investment

Relative ROI among the finalists was not a big factor in selecting the winners. Although showing significant ROI was critical to making the first cut, by the final stage it was considered a given.

jects. And Caterpillar Inc. (Page 50) redeemed a sagging reputation among truck-engine dealerships by offering them a system that dramatically overhauled Cat's cumbersome warranty-claims processing procedures. (The developers also sweetened the pot by adding slick engine-diagnostic features to the system.) The result? Independent dealers are now able to collect more quickly and easily on warranty claims and, not coincidentally, are more aggressively selling Cat products.

In the final case, the IT-rich just keep getting richer. Hyatt Hotels Corp. (Page 46) is so pleased with the results of its richly extended central reservation system that it's turning around and selling a version of it to other hotel chains.

Because these companies' business capabilities and the technology that enables them have grown together, the results have been high return and high value. This was made possible through partnerships between IS and the business units. Such collaborations worked best when the partnerships began early in the process, with a general discussion of what the business side wanted and needed and what technological capabilities IS could provide.

Booz-Allen assumed the responsibility of examining the nominated systems' strategic value to their organizations and their ability to deliver significant ROI. After an initial winnowing, teams of analysts began going through the applications in detail. Their objective was to learn what each system was doing and to verify that the benefits claimed could be directly attributed to the system and that the costs were fully reported. The teams then conducted on-site meetings with the applicants and others involved in developing, implementing and using the systems. They also observed the systems in action to determine their impact on the business.

After the site visits were concluded, the teams presented their cases to one another and to Booz-Allen ex-

THE JUDGES

Richard Arns
Executive Director

*Chicago Research &
Planning Group*

Carolyn A. Boyle
Senior Vice President

CNA Insurance Companies

Jeffrey H. Moore
**Assistant Dean for Computer
and Information Systems**

*Stanford University Graduate
School of Business*

Anthony V. Salvati
President

*Mercantile Technologies
Mercantile Bancorporation Inc.*

Don Saulic
Vice President

Budget Rent-A-Car

ecutives. Finally, they delivered positioning statements, along with their notes and the original applications, to a panel of distinguished judges (see above).

The judges spent a day together in Chicago evaluating and discussing the material, asking tough questions of Booz-Allen executives and debating each system's value (see box for a description of the criteria). They reached full agreement on the six winners by the end of the day.

We applaud our 1994 ESPRIT Award recipients and all the nominees who participated in the process. We hope that, from their example, others will learn the value of teaming IS with business to further their organizations' goals.

—*Marcia Blumenthal*
Editor in Chief, CIO

—*Martin E. Silverman*
*Vice President,
Booz-Allen & Hamilton*

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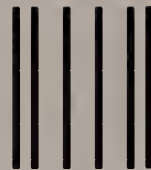
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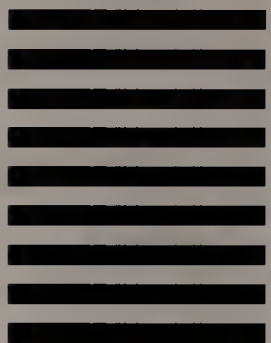
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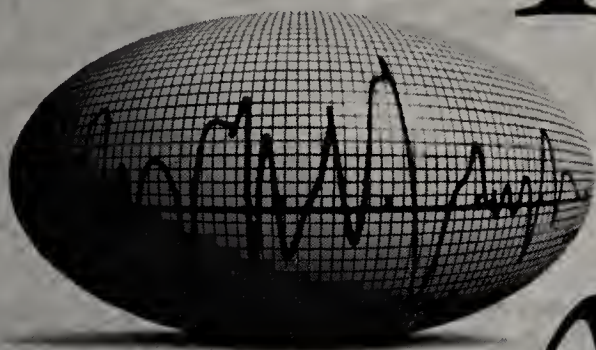


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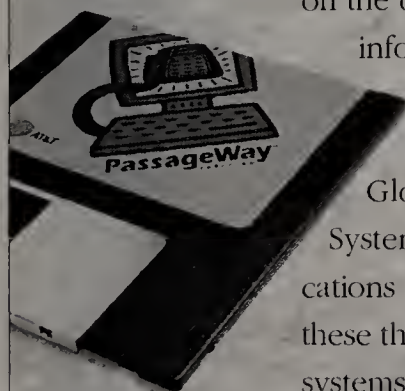
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Technical Profile

Hardware: IBM AS/400

Model B70 networked to
local terminals and remote
PC workstations.

Software: The system runs
proprietary APCOA property-
management software as well
as a financial suite of accounts
payable and receivable, fixed
assets, general ledger and
payroll/personnel from
Software 2000.

Networking/Communications:

Remote locations connect via
MCI private lines and switched
800 dial lines and use IBM's
OfficeVision/400 for E-mail
and file transfer.

STUELPE, LANGES
and CELEBREZZE
(left to right): APCOA's
new system supports
rapid growth while
keeping overhead costs
in check.

APCOA INC.

GARAGE SALES

*By integrating back-office functions and pushing
financial and demographic information out to
the front lines, this manager of parking facilities
has improved customer service and saved
millions in administrative costs*

BY CAROL HILDEBRAND



On the face of it, running a parking lot looks like a pretty simple operation. You wave motorists into the appropriate spots and take their money. But when you're a \$350 million company collecting fees at 390 sites across 38 states, you can wind up with an awful lot of dollar bills overflowing the tills. And if you want your business to be successful, all those greenbacks have to be turned into monthly revenue reports supported by legal management contracts.

At APCOA Inc., the nation's largest operator of parking facilities, a paper-based data-distribution process proved to be one of the chief barriers to efficient management. Both field and corporate executives were frustrated by their inability to shuttle business data quickly and effectively across the company. Excessive paperwork forced APCOA to hire a new administrator for every 10 parking sites it acquired. Worst of all, this informational bottleneck ultimately manifested itself in lower customer-satisfaction ratings.

So five years ago, APCOA began to use distributed technology to create a two-pronged management system integrating back-office functions while pushing valuable financial and demographic information out to the front lines. Not only do managers make faster, more-informed decisions, but the system has paid back its \$4.4 million price more than twice over, including more than \$2 million saved in administrative costs.

The firm's systems overhaul grew out of the need to cut overhead costs and improve customer service. Increased competition in the late 1980s and early '90s was cutting into the company's profit margins. Around the same time, President and CEO G. Walter Stuelpe Jr. commissioned a survey to gauge customer satisfaction. While APCOA's customers are a varied lot, the message they sent was consis-

tent. "We did not rate high in terms of good customer relations," Stuelpe says. For example, clients received incomplete monthly bills, with revisions tacked onto the following month's bill, complicating their bookkeeping.

So, Stuelpe put together a strategic-planning team of corporate executives, field managers and IS staff, who met over six months to hash out a better service strategy. The team decided that field employees would provide better customer service if they were given the autonomy and authority to make decisions on the spot. There was, however, a major hurdle. Regional workers could not make informed and independent decisions without easy access to business data, and APCOA's antiquated information-distribution process did not dispense information with dispatch.

APCOA meted out all its business data from company headquarters. Information from the accounting, payroll and legal departments, revenue-collection data, and what technology chief Paul Langes calls "a rudimentary database" used for contract- and location-management all resided on an aging Honeywell system at the home office. Queries from the field netted slow, paper-based responses. For example, if an office manager in New Orleans had a budget question, she had to call someone in the accounting department in Cleveland, who would then have to research and mail out a hard-copy answer. "Needless to say, the response time was very slow—up to a week," Stuelpe says.

The centralized structure also overloaded the balance sheet with redundant administrative costs, says APCOA's chief financial officer, Michael Celebrezze. Many regional locations created standalone budget reports on PC-based spreadsheets and mailed paper copies of

the reports back to headquarters, where the information was reentered by administrative staff. This led to a big Celebrezze irritant: the one-administrator-for-every-10-locations ratio. "We wanted to be able to grow our portfolio [of sites] without having to grow our infrastructure," he says.

For this to happen, however, corporate data could not stay seques-

APCOA BEGAN TO USE distributed technology to create a two-pronged management system integrating back-office functions while pushing valuable financial and demographic information out to the front lines.



tered at the home office. Stuelpe's team felt sure that a significant investment in a new distributed system was the best way to disseminate information and support quick decisions. Besides, says Stuelpe, "with our geographical spread, we didn't have many alternatives."

The team envisioned a system that would integrate every facet of the business, from location management to word processing. In 1989, Langes, director of systems and technology, set up a two-year planning and implementation schedule with the help of consultants from Ernst & Young.

After choosing an IBM AS/400 platform for its expandability and wide variety of packaged software, Langes' group fielded a committee of IS staff and end users to choose a mixture of packaged office applications and custom-built facilities-management software. Langes phased in the system starting with a suite of financial applications, word processing and E-mail. (Re-

APCOA The Bottom Line

Quantifying IT Expenditures

Investment in Thousands

■ Technology purchases
■ System development and maintenance

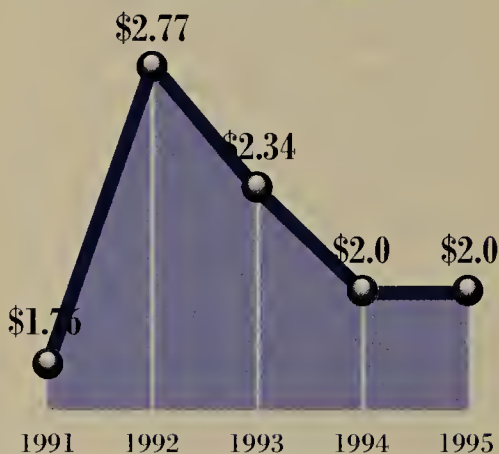


Total Cumulative Investment

\$4.4M

Measuring Administrative Returns

Gross Return* in Millions



*Returns accrued from reducing administrative costs. Revenue enhancements were also realized, but not quantified. Figures not available for 1990.

Total Cumulative Return

\$10.9M

\$10.9M

÷

\$4.4M

**ROI
248%**

gional locations accessed the system through PCs with direct lines.)

The team then implemented a variety of custom applications. These hang off the company's location-management system, a central database housing demographic information—addresses, contact names, site-specific banking and insurance information, and information on related locations—for all APCOA properties. Employees also track, audit and report revenue collected at each site and maintain a database of contract information needed to produce proposals, client statements and reports.

The benefits were immediate, says Langes. Instead of rooting through filing cabinets for, say, profit-and-loss figures, remote managers can access online financial information within minutes. And since each location draws upon the same set of data to generate reports, the quality of those reports has become much more consistent.

Business information such as revenue statements is now entered into the system at regional locations and uploaded to corporate headquarters, eliminating redundant administrative work. Celebrezze says the new system has enabled the company to cut 29 administrative positions, mostly through attrition. More important, he says, APCOA can now acquire new properties without excessive overhead costs. Instead of a new administrative position for every 10 locations, the ratio is now 1-to-30 or 1-to-40.

Langes and his team did not work their way through the multiyear project without a hitch, however. In spite of the obvious benefits, many prospective users were wary of change, according to George Havens, a Cleveland-based consultant who helped develop the strategic plan. "There was resistance and confusion," says Havens. "Some users viewed it as the latest management fad. Management had to convince them that this plan was for real."

Clyde Wilson, president of urban property south, was among the unconvinced. "We were from the

field and thought we knew everything, and we thought, 'It's never going to work,'" he says. Now, however, Wilson and his business manager, Celine Garman, are two of the system's biggest boosters. Wilson credits much of the project's success to Langes' ability to understand users' needs and communicate them to his staff during the system-design process. Rather than just take information, disappear and then toss a system back over the departmental wall,

**"WE WANTED
to be able to
grow our portfolio
of sites without
having to grow
our infrastructure."**

—Michael Celebrezze



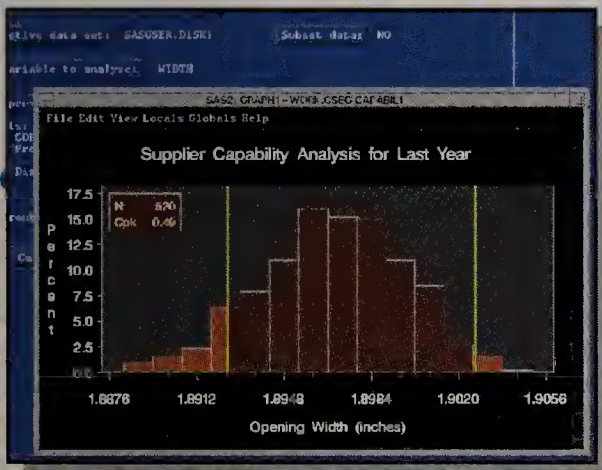
says Wilson, "he communicated with us every step of the way." Consequently, users got a system that actually delivers what they need.

For example, Garman says it has saved her hours of clerical work that has been farmed out to the individual parking sites. And Wilson only needs to think back a few hours to demonstrate how much the system has eased his life. "I was working on a contract [this morning], passing it back and forth online to the legal department for changes," he says. "The last changes were made a couple of hours ago, and it's done now. Before, that document would have taken five or six series of FedEx shipments to get done. It's almost like they're around the corner from us."

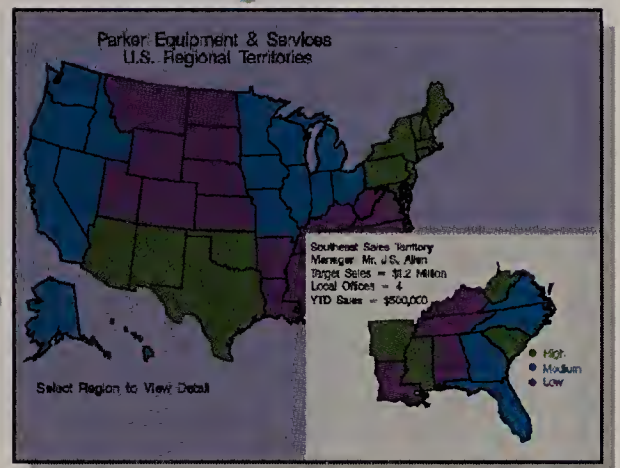
Such streamlined working processes can only help APCOA translate this system into a positive competitive advantage, Wilson says. "I've been in the parking business for 16 years, and I know that the competition doesn't have anything that's even close to this." **CIO**

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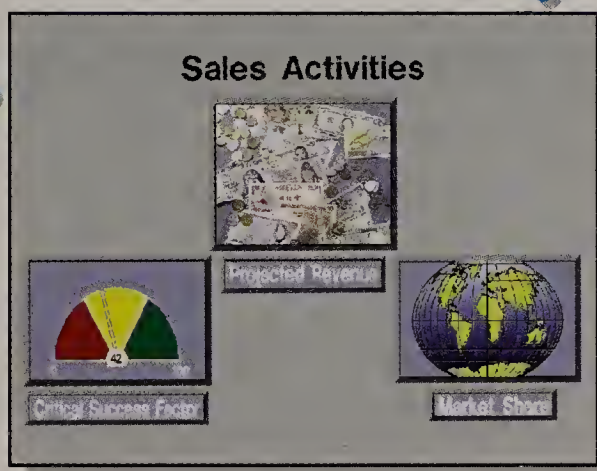


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The 1994 ESPRIT AWARDS

Technical Profile

Software: Development tools including Intersolv Inc.'s Excelerator II CASE tool; coding done on PCs with Software AG of North America Inc.'s Natural and Micro Focus Inc.'s Micro Focus Cobol; American Management Systems Inc.'s proprietary middleware CORE is the interface layer.

Hardware: Hitachi Data Systems Corp. XL 100 mainframe; 2,000 attached PCs and 3270-emulation terminals; began migration to client/server at the end of 1994.

Architecture: Software AG ADABAS mainframe database; statewide communication via Systems Network Architecture gateways and dedicated and dial-up lines; statewide networking software from Banyan Systems Inc.; departmental networking from Novell Inc.

KILMARTIN (left) and FLYNN set the standard for future IT projects in Massachusetts with a collection system their departments co-developed.

COMMONWEALTH OF MASSACHUSETTS



MAKING THEM PAY

An automatic billing and accounts receivable system has brought in \$120 million that would have gone uncollected, helping Massachusetts erase a daunting deficit

BY RICHARD PASTORE

For Massachusetts, the beginning of this decade was one of the darkest periods since the British blockaded Boston Harbor. Governor Michael Dukakis, once widely hailed, left office under a cloud of fiscal mismanagement and a failed presidential bid. The record-breaking state deficit swelled to \$850 million in early 1991. Things were so bad, new Governor William Weld considered shutting down all non-essential government services for a month.

If the commonwealth had been a private company, it would have applied information technology to the underlying problems long before things had gotten this grim. Governments, however, typically turn to tax hikes and spending cuts to battle deficits. When it comes to taxation, Massachusetts has a richer tradition than most, but the Weld administration wanted to try something different. Instead of raising taxes, the commonwealth had to do a better job collecting what it was already owed—including approximately \$5 billion annually in nontax revenue from fees, fines, licenses, federal reimbursements and assessments.

Part of the problem was state workers' ingrained disdain for revenue collection. "For a generation, they'd been rewarded for spending money and discouraged from collecting money," says Massachusetts Comptroller William Kilmartin. "Some even thought it was immoral to bill people for revenue." To change these attitudes, the legislature mandated maximization of revenue collection and made department managers accountable.

The other part of the problem was a lack of standard methods and enabling tools. Without these, no amount of motivation would matter. The solution, proposed by the Office of the Comptroller, was the Billing and Accounts Receivable Subsystem (BARS) that would automate Massachusetts' first stan-

dardized nontax-revenue-collection process. It would span 100 of the commonwealth's 154 departments and affect 2,000 workers.

The system, developed starting in late 1990 and deployed in October 1991, replaced or augmented departmental procedures and home-grown systems that were, for the most part, grossly ineffective. One example: The Massachusetts Highway Department had been collecting only 20 percent of real-estate rental fees owed annually. With BARS, the collection rate has risen to 90 percent. Statewide, BARS—a \$6 million investment over five years—is credited with bringing in \$120 million in revenue through fiscal 1994 that would have gone uncollected (see chart).

In the planning stage, the scarcity of collection practices worthy of modeling troubled Kilmartin, who felt his job was on the line if the project were to bomb. "The thing that kept me awake at night was not whether we could build it, but what if we built the wrong thing?" he says. A best-practices study within Massachusetts and across the country found no collection process complete and broad enough to model for a statewide system. "There wasn't a lot of comfort to be found out there," Kilmartin recalls.

The collection procedure finally agreed upon was more than adequate, judging from the first-year ROI of 1,530 percent. It was also fairly basic. "The technology allowed a simple process to be fleshed out, fulfilled and coordinated among the departments," says John Thomas Flynn, CIO of Massachusetts. BARS automates and manages standardized collection steps—generating as many as four billing notices, notifying debtors that their cases will be turned over to collection agencies and cuing workers when it's time to sue for payment or write off un-

collectible debts. Payments are logged into databases shared by the Massachusetts Management Accounting and Reporting System (MMARS), which handles all other accounts payable and receivable. BARS is a fully integrated subsystem of this 9-year-old mainframe application.

BARS' hefty returns helped the commonwealth erase its deficit in

"FOR A GENERATION, state workers had been rewarded for spending money and discouraged from collecting money. Some even thought it was immoral to bill people for revenue."

—William Kilmartin



fiscal 1992. But the system's success also set the standard for future IT projects—from here on, system sponsors would own their projects, and joint-development teams working in a single location would be the norm. Prior to BARS, the Office of Management Information Systems (OMIS), not the sponsor of an application, had traditionally called all the IS project shots. "Development frequently spun out of our control," recalls Susan N. Kanak, deputy comptroller and BARS project director. "We would have a business need; programmers would go away and code it and come back with a final product we'd have to live with."

That all changed with BARS. OMIS and the Office of the Comptroller agreed to work as partners and co-developers, with ultimate ownership and control passing to the latter. "We learned to turn over ownership of a project, not just the application," says Anna Dos Santos, director of OMIS's Financial Systems Group and the project's technical director. Attesting to its

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COMMONWEALTH OF MASSACHUSETTS

The Bottom Line

Quantifying IT Expenditures

Investment in Thousands

- Technology purchases and system development
- Ongoing operations



Total Cumulative Investment

\$5.97M

Measuring Collection Returns

Gross Return* in Millions



*Returns accrued from improving tax collection rates and reducing collection costs.

Total Cumulative Return

\$300.2M

\$300.2M ÷ \$5.97M

**ROI
5,028%**

new clout as project owner, the Comptroller's Office took over the contract with American Management Systems Inc. (AMS), which coded BARS and now markets the system to other governments, and it now exercises direct approval over the vendor's work and billing.

In addition to transferring project ownership to sponsors, BARS inaugurated the practice of "co-locating" joint development teams, meaning members work together in a single location. "I set aside room on our floor for John's people, AMS and my people to analyze business processes," Kilmartin says. "If you walked in, you couldn't tell who worked for whom." Co-location was key to the partnership's success and is now the preferred development formula. Its superior communications reduced the number of misunderstandings and late requirements changes, trimming development time by 33 percent versus traditional methods, according to Flynn.

Still, given the novelty of technologists and accountants laboring elbow to elbow, there were bound to be difficulties. The first to arise was a verbal disconnect. "The technical people fell quickly into programming jargon and used it as a way to avoid answering our questions," Kanak recalls. "They could baffle us very quickly, saying they couldn't do what we wanted and giving us an explanation that was incomprehensible." The solution was an insistence that everyone adhere to basic English, aided by handy translation from a former OMIS staffer now in the comptroller's camp.

Another sticking point was OMIS's preferred development methodology, Productivity Plus from consulting firm DMR Group Inc. It was too exhaustive to suit the Comptroller's Office. "It literally had a deliverable for every moment in the day, every thought you would have," Kanak says. Having to make decisions on such minutiae, the project directors were losing sight of the big picture. But OMIS, having trained its staff in the methodology, was committed to

it. The two parties compromised by agreeing to a modification with only eight to 10 concrete deliverables.

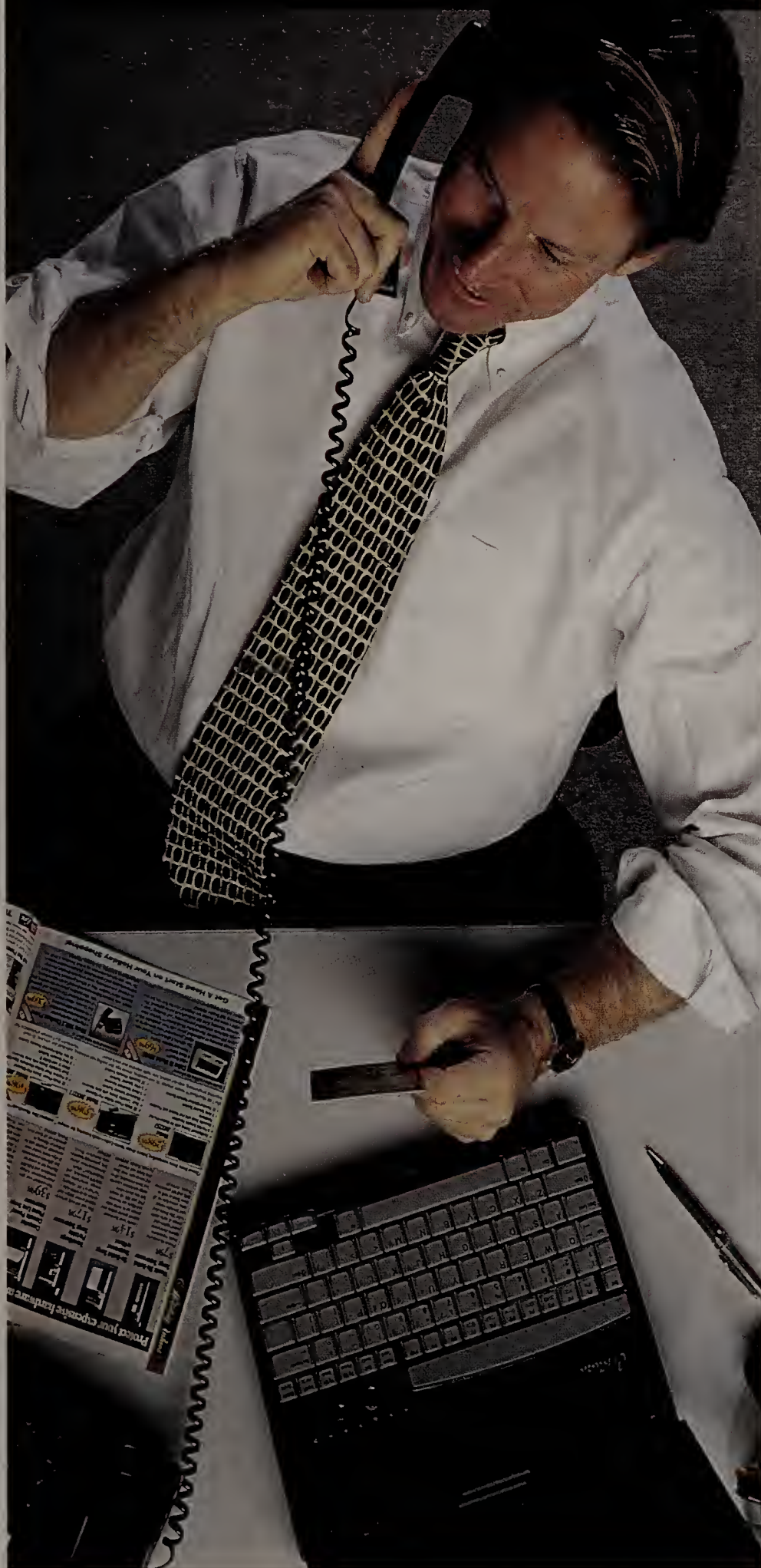
With all the talk of partnership, it's somewhat surprising that the end users were not considered to be major partners in the development of BARS. Though many state workers were consulted throughout the project, they had no decision-making authority, and they were not considered the system's owners. "If you're looking for big-splash business-process reengineering, it's really an executive-leadership role," Kilmartin explains. The users were just too close to the old processes to envision and execute the radical changes required.

Users confirm that they remain two steps removed from the system. "We feel we have control over managing the information, but we're not the owners of the system," says Sue Bristol, director of revenue collection and financial systems for the Massachusetts Highway Department, where former collection practices were completely scrapped.

Despite ownership issues, Bristol says her department sees BARS as a "joy." Besides maximizing revenue collection, it has allowed users to query and report the data for the first time, improving service to citizens who phone the department with billing questions.

BARS' legacy continues to mushroom. Besides developing enhancements to BARS, the partners have teamed up again on a data-warehouse project and a graphical user interface for MMARS. These successes, says Flynn, have excited the politicians on Beacon Hill about the power of IT: Weld appointed Flynn the commonwealth's first CIO last summer, established a statewide IT coordinating council and pushed through a \$100 million IT funding bond on the heels of BARS' completion. The Weld administration has recognized technology as a tool for reinventing government—and since William Weld is widely believed to have presidential aspirations, BARS' repercussions may someday be broader still. **CIO**

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Technical Profile

Hardware: Digital Equipment VAX 4300 equipped with 192MB of RAM and about 7GB of online disk storage; 486-class PCs from a variety of vendors.

Software: Operating system is Digital Equipment's Open-VMS, with Pathworks for network operation; logistics software is GSI Transcomm's TOLAS; customer-service and technical-support software are Answerset's Clientele and Infonetics Corp.'s ASQ'em. Software-development tool is Digital Equipment's Code Management System. Also, United Parcel Service's Maxi-Trac; Microsoft Windows, Windows Help, Word, Excel; Lotus Organizer and cc:Mail; Omtool Ltd.'s Fax Sr.

Architecture: Most 486 nodes on the network are connected via twisted-pair Ethernet using a DECHub concentrator.

BROWN, HOFFSTEIN and LITTMAN-QUINN (left to right): taking mail-order PC sales to a new level of customer service

PCs COMPLEAT

THE SOUL OF A NEW MACHINE SELLER

Three years ago, computer distributor PCs Compleat built itself around an enterprisewide information system that would distinguish it from its competitors and ensure its success

BY E.B. BAATZ



Imagine starting a business from scratch. No antiquated mainframe computer, no pesky Cobol code. Nothing but a new business idea and perhaps a few million dollars in funding. Now imagine being given carte blanche to get the information system up and running.

That is precisely the situation in which William C. Brown basked during New England's Indian summer of 1991. His old boss, Gordon B. Hoffstein—for whom Brown had worked at computer distributor MicroAmerica Inc. (now Merisel Inc.)—had called to tell Brown that he (along with a partner, Jack Littman-Quinn) was starting a new business, and he wanted his former IS vice president to help him found it.

The idea for the business was simple: to sell brand-name PCs to customers by offering them the range of choice of a retail superstore and the value and convenience of a direct marketer, and to bundle these with the unparalleled customer service of a technology-enabled company. The funding, \$4.5 million in venture capital, had been secured. And so a brand-new company, PCs Compleat Inc., of Marlborough, Mass., was born.

But because margins in the PC market are so tight and the competition so intense, selling personal computers is a hazardous business. "We knew we had to create an entire infrastructure that would ensure our survival," says Chairman and CEO Hoffstein. That's where Brown came in.

"We started building the information system in October 1991," says Executive Vice President Brown. "By January we had about 60 percent [of the present system] in place, and we were ready to begin business." Adds Systems Administration Manager George Sutherland, another member of the startup team, "We were able to put together a system capable of handling up to \$4 billion in orders in just four months because we'd all known each other for 10 years,

so there was no proving time."

Figures for the company's total investment in IT are not available, but it was the single largest expenditure for the startup. "Determining return on investment is tough. Without investments in technology the company simply would not exist," says Stephen M. Joseph, director of finance. (The ROI example that PCs Compleat submitted for the ESPRIT Award looks at

**"WE STARTED
building the
information system
in October of 1991.
By January we had
about 60 percent of
the system in place,
and we were ready
to begin business."**

—William C. Brown



the company's investment in its credit-card and fraud-protection system only.)

As with any risky new venture, skeptics abounded. "Some people told us that we were lunatics," says Hoffstein. "They told us that Dell and Compaq wouldn't allow us to sell PCs this way." In fact, getting PC vendors to authorize little PCs Compleat to sell their wares was the fledgling company's overriding challenge.

At first the company sold only second-tier PCs from makers such as Everex (now out of business) and Leading Edge Products Inc. "But when vendors started to see our IT system, all of a sudden we started to get authorized," says Hoffstein. Toshiba America Information Systems Inc. was the first major ven-

dor to hop on board in August of 1992. By March 1994, even IBM and Hewlett-Packard Co. had signed on.

"A few years ago, we were hesitant about getting into mail order because we didn't understand it," explains Brian W. Babcock, New England regional sales manager for Toshiba. "But PCs Compleat is so automated, they just have a better way of doing things."

The system—designed by Brown and MIS Director Nicholas Kalantzakos—that so impressed Babcock uses a Digital Equipment VAX 4300 as the network file server. The VAX doubles as a platform for PCs Compleat's minicomputer-based logistics (order entry, purchasing and warehousing) and accounting applications software (see technical profile). "DEC architecture had allowed us to grow seamlessly [at MicroAmerica]," says Brown. "We wondered, 'Why not take those things we used back in the mid-1980s and also take advantage of new personal-productivity software to do it even better this time around?'"

One facet of the company's information system that particularly impressed the folks at Toshiba, says Babcock, was a product-comparison database and an interactive fax feature. With these tools, a PCs Compleat sales associate can call up detailed product comparisons on his or her PC screen and then fax the information to the potential customer while still on the phone and without interrupting the order-entry process.

Also, notes Babcock, Toshiba has unprecedented access to PCs Compleat's information system. "On a weekly basis, we just dump into their computer to look at the sales and the inventory reports," says Babcock. "Quick access to this information is critical to us."

Sharing information with vendors and business partners is just part of a deliberate IS strategy at PCs Compleat. For example, when the company began looking to partner closely with a shipping

PCs COMPLEAT The Bottom Line

Quantifying IT Expenditures

Investment in Thousands

- Technology purchases and system development
- Maintenance and operations



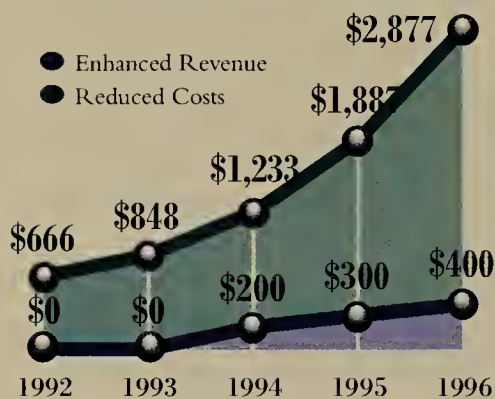
Total Cumulative Investment

\$1.47M

Measuring Selected Returns

Gross Return* in Thousands

- Enhanced Revenue
- Reduced Costs



*Returns accrued from reducing credit-card fraud, increasing worker productivity and growing profits from new distribution services.

Total Cumulative Return

\$8.41M

\$8.41M

÷

\$1.47M

ROI†

572%

†This example does not include the start-up company's entire IT budget, but serves to illustrate its investment in credit-card fraud protection systems only.

company, the choice of shipper was contingent upon the shipper's ability and willingness to integrate the two companies' information systems.

"They came to us in late 1991 with the realization that they'd have to streamline their package system," says Patrick Barry, logistics services manager in the Londonderry, N.H., district office of United Parcel Service. UPS and PCs Compleat teamed up to automate the shipping process.

When an order is taken over the phone, all the information, including shipping information, is captured at once. In the back room, where the customer's PC is configured and boxed, a printer spits out bar-code labels and a shipping manifest without any extra key punching. "We use the bar codes to trap errors and to track worker productivity," says Hoffstein.

In 1994, PCs Compleat began working with the latest version of UPS's MaxiTrac software in order to garner even more gains from automation. "They can dial up our mainframe in order to track a shipment," says Barry. That's nothing new, of course, but PCs Compleat also has the ability to track batches of packages. "They take all the tracking numbers, drop them into a report and store them in their own order-entry system," explains Barry.

When a customer calls looking for her package, the sales associate can answer the questions immediately. "We also save two positions in the warehouse by partnering with an outside service in order to leverage our IT investment," says Brown.

Like any well-run mail-order house, the company closely monitors how quickly calls are answered. And the system is constantly being tweaked for improvements to speed up customer response time. With over 3,000 technical products to support, the system is the company's lifeline.

Keeping that lifeline strong during the halcyon startup days of rapid growth has been no simple task. One thing that has helped: All the managers in the company log one week-end day a month on the phones an-

swering customer calls. This hands-on experience allows the IS team to continuously look for ways to improve the system.

"One time a customer asked me if a particular PC was cellular-ready," recalls Brown. "Argh! I had to go back to starters on the computer system to access the information. So, the next day I had Nick add a key that allows the sales associate to list

**THE COMPANY'S
revenues grew fivefold
from 1992 to 1993 and
doubled to over \$110
million last year.**



product attributes [without exiting out of the order-entry system]. That saves 45 seconds. If you multiply that by the thousands of calls we get, then we've saved tons of time."

"We feel that if we can't answer the customer on the spot, then they won't be satisfied," adds Hoffstein. "But this technology [for rapid-fire customer response] wasn't even available five years ago."

Efficient use of technology and the organization's dedication to continuous improvement have proven successful. The company's revenues grew fivefold from 1992 to 1993 and doubled to over \$110 million last year. In terms of productivity, one year ago PCs Compleat earned \$800,000 in sales for every employee; today the sales-to-employee ratio has climbed to \$1.2 million, and next year it's expected to be \$1.5 million.

"As I look back, I can see that Bill and Nick had foresight," says Hoffstein. "Either they were dumb lucky, incredibly smart or a little of both." As for the future, says Hoffstein, "I guarantee you that there are things we are doing now with IS that we think are slick but in a few years we'll think are garbage." Such is the life of an IT-driven business in the fast lane. **CIO**

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EXTENDING YOUR REACH™



The 1994 ESPRIT AWARDS

Technical Profile

OLD SYSTEM:

IBM 4381 mainframe, customized version of a central reservation system developed for the Westin Hotels by United Airlines. Installed in 1982.

NEW SYSTEM:

Architecture: Open Unix client/server platform providing online processing. Developers used four state-of-the-art technologies never before combined for a project of such magnitude; a relational database system, a 4GL, large-scale Unix online transaction processing and TCP/IP networking.

Hardware: Initially, two AT&T System 7000 processors running Unix 5.3; upgraded to Pyramid ES Series Unix computer running Unix 5.4. Omaha reservation center equipped with IBM PCs; hotels use dumb ASCII terminals that emulate AT&T 3B2 and HP 9000 processors.

Software: Informix OnLine 4.0 relational database-management system, supporting 50 to 100 transactions per second. Development tools included Informix 4GL Rapid Development and 4GL Interactive Debugger.

Networking/Communications: TCP/IP backbone network linking Hyatt technical center near Chicago with reservation center in Omaha, airline-reservation systems and Hyatt properties.

LOWELL (right) and BIGGS: Bookings are up dramatically.

HYATT HOTELS



SATISFYING THE INN CROWD

*A sophisticated central reservation system gave
Hyatt Hotels major new staying power*

BY ANNE STUART

Clunky" doesn't even begin to describe the central reservation system Hyatt Hotels & Resorts used before 1990. Try "antiquated," "inflexible" and, above all, "frustrating."

How bad was it? Joan Lowell, assistant vice president for reservations, says Hyatt offers dozens of different rates at each location. But you wouldn't have known that from the old system, an inflexible mainframe environment dating back to 1982, which provided sluggish, limited service. "We could display only 24 rates," Lowell recalls. "The customer would be aware of a special rate he had previously gotten at the hotel, and we weren't able to display it." Representatives also couldn't confirm rates or reservations for group bookings.

Nor could travel agents directly access the hotel chain's system to book rooms. Instead, they had to inquire by E-mail, then wait for Hyatt service representatives to manually make the reservations and reply with confirmations. Updating information took even longer. "You'd take a rate change and put it in, and it would take a week [to show up]," says Lowell, who oversees the Chicago-based hotel chain's reservation center in Omaha, Neb.

During the late 1980s, as the nation slid toward recession and the lodging industry competed ever more fiercely for guests, Hyatt executives realized they needed to streamline the reservation process. They also wanted to increase the bookings-to-calls ratio without increasing the average time per call.

Their solution: the SPIRIT Central Reservation System, an open Unix client/server platform with online transaction-processing capabilities. Now in its fifth year, the system offers faster, more accurate and more automated central reservation services at substantial savings. (See "Going Up..." *CIO*, October 1990.)

"From a business perspective, it has clearly given Hyatt a com-

petitive advantage in terms of the way it distributes its product," says John Biggs, COO of Regency Systems Solutions, a Hyatt division.

SPIRIT's task is a formidable one. The system tracks the chain's most important asset: its inventory of nearly 75,000 rooms in 164 hotels in 34 countries. About 500 customer-service representatives use the system in fielding up to 30,000 customer calls a day; some 110,000 travel agents also have access.

How is SPIRIT working? Executives say it easily handles more than 200 million transactions an-

**BOOKINGS HAVE
increased 25 percent
annually since 1990,
with no increase
in the average
call length.**



nually. Representatives can access a wide range of information on all Hyatt properties, such as rates, availability of baby-sitting or cable TV, and the distance between the hotel and the airport; they can also quote and confirm rates for individuals and groups. Updates made online take effect immediately. And travel agents can book rooms directly through links with about 20 airline-reservation systems and receive instant confirmation. "It's really dynamic, really flexible now," Lowell says.

The ROI figures tell the real story. Bookings have increased 25 percent annually since 1990, with no increase in the average call length. Revenues attributed to the central reservation system grew from \$450 million in 1990 to \$575 million in 1993. Officials attribute this increase largely to the fact that guests and travel agents who

once booked rooms by calling individual Hyatt hotels now can use the central reservation system (travel agents dial directly into the SPIRIT system; guests call the toll-free telephone number at the reservation center).

During the same period, Hyatt increased its overall revenues more than \$100 million while revenues in the lodging industry as a whole were flat or declining. Figuring in the increased productivity and a reduction in data-center expenses and training costs, Hyatt executives estimate that SPIRIT has recouped its initial investment several times over.

Hyatt also established the new operating division, Regency Systems Solutions, to market SPIRIT to other chains. Early takers include the LaQuinta Inns Inc. chain, which installed a customized version of SPIRIT at its central reservation facility in San Antonio.

In addition, the system's flexibility has opened up new opportunities for travel-industry partnerships. For instance, Hyatt offers special packages for American Automobile Association members, operates a toll-free number to handle AAA calls and tracks the responses.

And SPIRIT has helped Hyatt regain its credibility with travel agents as well. Since the system went online, Hyatt's agency business has grown between 14 and 20 percent annually.

"That's a direct reflection of our ability to provide information to them," says John Lavin, Hyatt's director of travel industry sales. In fact, SPIRIT has won that industry's highest honors, including a 1992 Travel Industry Award of Excellence and the 1994 Hotel Automation Quality Award from the American Express Travel Services Group.

Such accolades are sweet extras for the team that began developing the SPIRIT system late in 1989. Technologically, the venture represented a major challenge because it involved state-of-the-art hard-

HYATT HOTELS

The Bottom Line

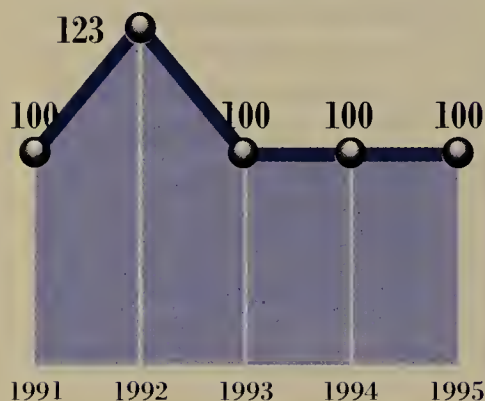
Quantifying IT Expenditures

Investment
(Index: 1991 = 100)*



Measuring Even Returns

Gross Return†
(Index: 1991 = 100)*



*Expenditure and return figures are indexed because Hyatt declined to provide hard numbers.

†Returns accrued from increasing worker productivity and marketing the system to other hotel chains. Figures not available for 1990.

ROI
496%

ware, software, tools and protocols that had never before been combined in an application of such magnitude. (See Technical Profile, page 46.)

To make it work, Hyatt forged a partnership with AT&T and software vendor Informix Software Inc. Executives from the three companies met regularly during development, and all three dedicated staffers to the project from inception to launch. "The partnership was critical," says Gordon S. Kerr, who was Hyatt's senior vice president of MIS until he left to accept a position with another company late last year. "Some vendors ship equipment and it's up to the customer to make things work. We understood quickly that we were at the edge of each vendor's technology and that it was critical to have vendors work with us and view this as their project, not ours."

Developers moved all equipment into a single large classroom at Hyatt headquarters dubbed "the clubhouse" and labored there together for nine months. Kerr describes the atmosphere as intense, collegial and productive. "You'd look up over your terminal, ask a question, get the answer and go back to work," he says.

Team members also worked closely with users, traveling to Omaha to study customer-service representatives doing their jobs. "That was terrific," Lowell recalls. "They were able to look at the work process as well as the business side and make a lot of enhancements. They automated things we hadn't even thought to ask for, because we didn't know they existed," such as the ability to access information on group meetings and rates.

Biggs cites two proofs of the partnership's success: "The project got done on time, within budget. A lot of people had to make concessions to get that done," he says. "And we're still friends. We still do business. We still rely on each other's validation of each other's products."

Since its launch, SPIRIT has been upgraded repeatedly. New software releases appear about every two

months, compared with twice a year under the old system. And there's room for growth. For instance, the system can accommodate nearly 10 times the travel-agent traffic it now handles.

Meanwhile, SPIRIT has allowed Hyatt to develop additional services. Representatives can access a constantly updated database of information for each hotel to assist callers asking about ground transportation, baby-sitting or the distance to local attractions, for example.

The system also creates guest histories, recording lodgers' credit-card numbers and any special requests such as a king-size bed or a no-smoking room. When repeat customers call to book a room, representatives can access those records instantly to accommodate the guests' preferences before they ask. And SPIRIT allows supervisors to compare the number of calls in relation to the number of bookings per representative to use for employee feedback and performance reviews.

There's more to come. Within months, Lowell says, regular customers will reach the same "personal reservationist" each time they call, either by being assigned an identification number or because the system will recognize the source of an incoming call and forward it to the appropriate staffer. She's also anticipating improved graphics that will let representatives view city maps and pictures of rooms at each Hyatt property to better answer caller questions.

Internet users can now view pictures of some Hyatt properties and rooms on their PC screens. Early this year they will be able to book their rooms online and electronically search the Zagat restaurant reviews for dining spots close to their hotels.

That's all light-years from the mainframe that only displayed the two dozen most frequently requested rates. "We don't have to work around the computer now," Lowell says in summary. "The computer works for us." **CIO**

A definition of scalable computing:

"The ability of a system to expand application execution in a near linear fashion as a function of added CPU components, properly balanced with I/O controllers and devices, provided that memory access and bus bandwidth capacity are sufficient to prevent excessive time-outs and queuing inefficiencies for stacked job streams where metrics for scalability generally employ network-connected terminal devices or simulators, although it may alternatively employ multiple intelligent clients providing for distribution of workload between client and server." ~ *The competition*

Common sense translation:

"As your business grows, your computer system should be able to grow with it." ~ *Data General*

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Bringing Common Sense to Computing

The 1994 ESPRIT AWARDS

Technical Profile

Hardware: IBM-compatible PCs, Hayes-compatible modems with speeds between 1,200 and 9,600 baud

Software: CAT PC, a PC-based program developed by Simware Inc. of Ottawa with encryption-based security, gives second-level dealers online access to Caterpillar data. Caterpillar host software also modified by Simware.

Communications: 800-number connection developed by AT&T and Tymplex with Caterpillar's Telecommunications group.

HOFFER (left) and CURRY helped give truck service shops the information they needed.

CATERPILLAR

ON THE ROAD AGAIN

By giving service shops easy access to its mainframe, Caterpillar's Engine Division preserved its good name

BY DEIDRE SULLIVAN



Among truckers, "downtime" is just as dirty a word as it is among computer users. When a truck engine breaks down, any resulting delay costs the driver money, both in lost time and in the expenses associated with waiting until the problem is repaired. So, if an engine manufacturer doesn't do all it can to minimize such inconveniences, its reputation will suffer.

Such was the case for Caterpillar Inc., the Peoria, Ill.-based global giant whose Engine Division is a leading manufacturer of diesel and natural-gas engines. As recently as 1991, the word about Caterpillar was decidedly mixed. Yes, it designed rugged and durable engines. And yes, it was the resounding first choice of thousands of drivers. But the company had some major problems.

First, repairs took too long. When a truck arrives at a service shop, repair decisions often depend on critical historical and technical information, such as data about the original factory settings of the engine, that is available only on Caterpillar's central mainframe. Although service shops are often open round the clock, they could not access this information directly; rather, they had to get it from distributors, many of which are open only eight hours a day. So, service shops had to hold off on repairs until a distributor could be reached to access the information for them. The result was considerable irritation, both for the service shops and for their customers.

In addition, Caterpillar often took months to fulfill warranty claims, meaning the shops had to wait to be reimbursed.

"Our reputation was clearly on the line," says Robert J. Hoffer, Caterpillar Engine Division information services manager. "We had to do something, and fast."

Enter the Engine Division Customer Services group, the Caterpillar team that deals firsthand with truckers, service shops and distributors. In October 1991, the

group began lobbying executives in Information Services to create a systems solution that would enable the service shops to have 24-hour access to information. In March 1992, the group rolled out its CAT PC software; by dramatically reducing head count at the dealer level, the system has since provided a 145 percent return on investment, according to the firm.

**"WE ATTENDED
dealer-association
meetings. We met
with truckers. More
than 500 people
were involved in
the early stages."**

—George E. Curry



Caterpillar's Engine Division, which contributed almost \$4 billion to the \$11.6 billion in revenues earned in 1993 by the company as a whole, supplies its engines and parts to 183 Caterpillar distributors worldwide. Those distributors, in turn, can serve as many as 100 service shops, or "second-level" dealers. In total, there are over 2,000 second-level dealers associated with Caterpillar and more than 700,000 Caterpillar engines on the road.

Caterpillar distributors have long had access to the company's central mainframe, on which all parts and other engine data is stored. By connection via terrestrial lines or satellite links, they could query the mainframe for parts and service information.

The challenge was to provide the second-level dealers with the same quality of information and access. To create a viable solution, the Engine Division's Information Services group teamed up with the Customer Services group, Cater-

pillar's Corporate Information Services group and customers themselves in a four-way partnership. Representatives from the Caterpillar Telecommunications, Auditing and Security groups also provided critical input at different stages.

"We attended dealer-association meetings. We met with truckers. More than 500 people were involved in the early stages," says George E. Curry, customer services manager in Caterpillar's Engine Division.

The result was the CAT PC software, which enables second-level dealers to access the Caterpillar mainframe via an 800-number modem connection. CAT PC is the first system in the trucking industry to connect a manufacturer with its second-level dealer network, Curry says.

CAT PC provides a secure link between authorized truck dealers and various Caterpillar host applications. The system is available 24 hours a day, seven days a week, and an easy-to-use interface automates connection and simplifies the process. When dealers dial into Caterpillar's central system, they are presented with a customized menu of applications, determined by their unique, encrypted identification codes. Among the choices are service literature, factory specs, E-mail, warranty reports and metric conversions. Once connected, dealers can query the mainframe and pull up historical repair information on any Caterpillar engine ever produced. The system will also alert the dealer if an engine is stolen: Caterpillar makes a note in its central database when truck thefts are reported, so any dealer entering the serial number of a missing engine will see immediately that it is hot.

"Having the repair history online makes a big difference when a truck rolls off the road," says Steve Spihlman, a service manager at Truck Centers Inc., a second-level dealer in Troy, Ill. More than 65 percent of Spihlman's business is "transient," involving work on

CATERPILLAR The Bottom Line

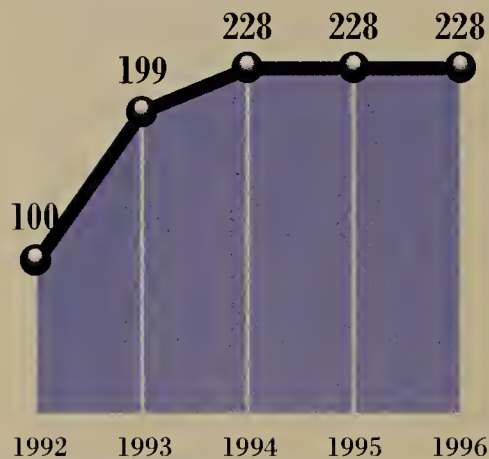
Quantifying IT Expenditures

Investment
(Index: 1992=100)*



Measuring Selected Returns

Gross return†
(Index: 1992=100)*



*Expenditure and return figures are indexed because Caterpillar declined to provide hard numbers.

†Returns accrued from reducing development and operations expenses. Significant nonfinancial returns such as reduction in warranty claim reimbursement cycle also were realized. Figures not available for 1991.

ROI
145%

trucks his company has never seen before, so the ability to access an engine's history is extremely useful. "We call up the system, type in the engine serial number, and everything we need to know about previous repair activity is right there online," he says.

The overall result, according to a Caterpillar customer survey, has been a significant improvement in customer satisfaction.

CAT PC has also dramatically improved the way warranty claims are processed. In the past, second-level dealers had to go through an onerous step-by-step process of manually looking up warranty information or calling a distributor for assistance. Then they'd have to fill out paperwork and route it to the distributor. The distributor, in turn, would review the documents and key the data into the warranty system on Caterpillar's mainframe. In all, it took up to 60 days for the second-level dealer to be reimbursed by Caterpillar.

Today, dealers can check the details of a warranty via CAT PC and then batch-transmit the relevant information directly to Caterpillar headquarters, where warranty payments are made within a month. Thanks to the faster claims cycle, dealers' working-capital requirements have been reduced by about 50 percent, Curry says. Distributors also benefit because they no longer have to process warranty paperwork for their second-level dealers. More than 90 percent of all claims on truck engine services are now processed through CAT PC.

When designing the interface, one of Caterpillar's primary concerns was how to provide friendly access to its legacy system while protecting it from intruders and hackers.

After rejecting smart cards and dial-back procedures as "unfriendly," Caterpillar opted for encryption at the initial connection, Hoffer says. Today, when a second-level dealer calls, access is approved at the time of the communications "handshake." The dealer can then query

the system as necessary within the bounds set by his or her access level.

CAT PC is a DOS-based program and can be used with any IBM-compatible machine. During the first year, 600 second-level dealers connected to the Caterpillar mainframe via CAT PC. Today, 1,050 dealers—representing 75 percent of the company's high-volume dealers—are online, with the expectation that the rest will be by year's end, says Curry.

Since going online with CAT PC, Caterpillar reports that some of the larger second-level dealers have been able to reduce head count in their claims-processing areas by as many as three to four people. In total, Caterpillar's dealers and distributors have eliminated more than 100.

"We knew that CAT PC was going to simplify and speed up processes, but we didn't have any idea of the extent of the impact when we first started out," says Curry.

CAT PC currently processes more than 30,000 dealer inquiries each month. And the Information Services group monitors usage, not only to keep improving the system but also to identify cases where a dealer could benefit from training, for example.

"We analyze the kinds of questions that a service shop is repeatedly asking. That might signal a need for the distributor to set up a training session," Curry explains.

By monitoring usage and reporting to distributors, Caterpillar helps maintain strong ties between second-level dealers and distributors. "This relationship is an important tradition at Caterpillar," says Curry.

CAT PC has been so successful that truck-fleet owners and OEMs are also clamoring to go online. And the infrastructure is now in place to build in new services for the dealer network, such as automatic reordering of parts. "We want to help our distributors and dealers do repairs, get quick turnaround and receive fair market value for their services and parts," says Curry. "The word's out now about CAT PC." 

Deidre Sullivan is a freelance writer based in Brooklyn, N.Y.

Most crystal balls tell fortunes.

This one helped Kmart save one.

We're proud to have helped Kmart develop their highly successful Seasonal Merchandise Management application. It helps Kmart customers find the right seasonal products, in the right stores, at the right prices. It also won *CIO Magazine's* Esprit Award for outstanding return on a technology investment. Not to mention the eternal gratitude of buyers, merchandisers and store managers everywhere. Congratulations, from your friends at AT&T Global Information Solutions.



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The Point Is Time.

The 1994 ESPRIT AWARDS

Technical Profile

OLD SYSTEM:

Weekly paper-based reports generated from the NCR/Teradata DBC/1012 database server via a 3278 terminal.

NEW SYSTEM:

The client/server-based Seasonal Merchandise Management System (SMMS).

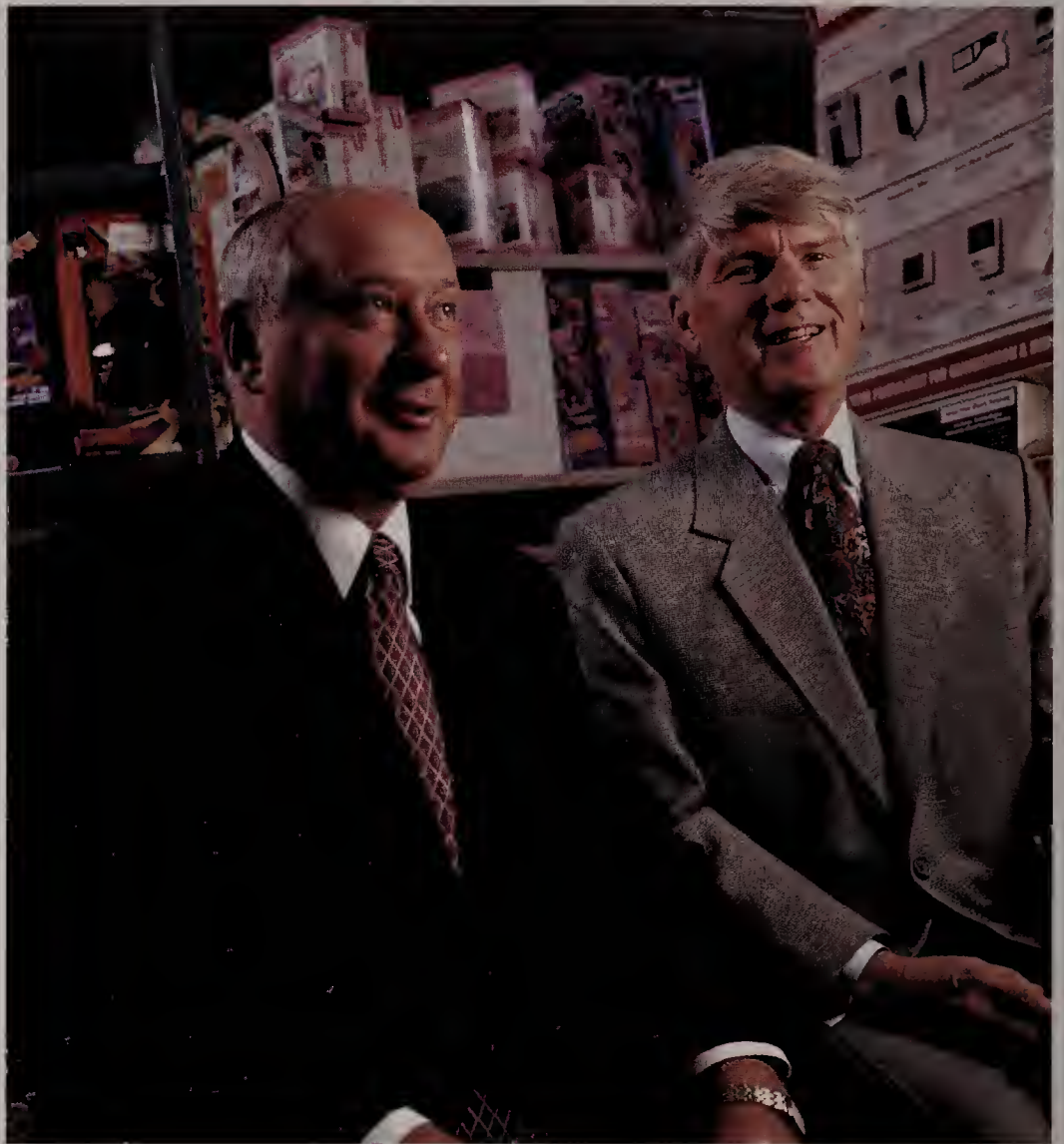
Hardware: NCR Teradata DBC/1012 relational database server that stores and processes sales and inventory data; DOS-based NCR 3330 486 workstations with color monitors; three MVS mainframes for transferring sales and inventory data every morning.

Software: Packaged software on workstations includes DOS, Microsoft Windows, Microsoft Excel and Win/CLI, which allows communication with the Teradata server. SMMS was developed using the Asymetrix Toolbook language.

Communications: Novell Token Ring local area network links client workstations with the Teradata server. Remote users in the United States have transparent access to the LAN via Kmart's satellite communications system.

WEGSCHEID (left) and CARLSON: Pricing is based on sales at individual stores.

KMART CORP.



A SEASONED PERFORMER

The venerable retailer's bid to recoup its fortunes includes a system that overhauls the management of highly profitable seasonal merchandise

BY MEGAN SANTOSUS

For retailers, the effective management of seasonal merchandise is a delicate proposition. The selling window is of limited duration and the goal is not to get caught with too much—or too little—inventory at the wrong point in the seasonal cycle.

Take Christmas items. If there were no tinsel or wrapping paper or spare tree lights on the shelves the week before Christmas, customers would head for the exits. But if, on Dec. 26, the shelves were still well-stocked with these items, that too would be egregious.

And, because of the shorter selling season, the profit margins are kept higher on seasonal items than on regular stock; so, when it comes to maximizing profits, the balancing act between supply and demand is all the more crucial.

If at first blush all that tinsel doesn't seem like such a big deal, it can definitely add up. For ESPRIT Award honoree Kmart Corp., holiday merchandise totals some \$2 billion—and Kmart's Seasonal Merchandise Management System (SMMS) currently handles only a fraction of the seasonal goods Kmart sells. (The inaugural project was limited to holiday items; it was recently extended to include back-to-school merchandise, and there are plans for further expansion.)

The universe of seasonal retail merchandise is potentially quite extensive and might include such items as snow blowers, lawn mowers, bathing suits and bags of peat moss. Kmart, however, declines to reveal the total percentage of revenues for which its seasonal inventory accounts.

According to David M. Carlson, Kmart's senior vice president of corporate information systems, managing seasonal inventory perfectly would mean "the last customer who wants a particular item will find the last one in stock."

[Editor's note: After this article was reported, Carlson was shifted out of Kmart's top IS spot to other,

unspecified duties, reportedly because of dissatisfaction over problems plaguing Kmart's inventory replenishment systems.]

While perfection is elusive, Kmart's use of client/server-based technology to fine-tune seasonal merchandise management and centralize decision making at its Troy, Mich., headquarters is paying off big. Through fiscal 1996, Kmart projects a total return from SMMS in the neighborhood of \$240 million. Not bad for an investment of roughly \$2.5 million.

Kmart could certainly use the money. Earnings at the \$34 billion-a-year discount department store chain have plunged of late. Recently, the company announced a restructuring effort that calls for closing 110 stores and eliminating 6,000 jobs. Still, many retail analysts contend that shedding unprofitable stores alone will not cure all of the company's ills. If Kmart hopes to return to healthy earnings, it must reduce overhead in existing stores and further exploit strategic use of information technology, according to Seth Kranz, a management consultant with CSC in Newton, Mass.

SMMS is a step in the right direction. By providing buyers and planners at headquarters with daily sales and inventory data, the system has transformed the way Kmart manages the seasonal goods in 2,350 stores in the United States. Inventory and pricing decisions are now based on sales performance at the individual stores. As a result, Kmart can maximize profits by preserving full price—and gross margins—in stores where seasonal items are selling at or above plan. In stores where sales are lagging, the company can tailor an appropriate merchandising strategy to eliminate inventory by season's end.

Since it was implemented in fis-

cal 1992, SMMS has improved seasonal merchandise sell-through—defined as the total number of items sold divided by the total received—by 5 percent. While that may not seem like much, selling more seasonal merchandise at the optimum profit margin, rather than at a loss or at break-even, translates into millions of dollars. In 1992 and 1993, higher sell-through rates on seasonal merchandise accounted for incremental profits of \$28.9 million and \$37.2 million respectively.

Historically, Kmart managed seasonal merchandise chainwide,

“MANAGING SEASONAL inventory perfectly would mean the last customer who wants a particular item will find the last one in stock.”

—David M. Carlson



measuring total sales against total purchase orders. Chainwide markdowns were mandated when sales fell behind plan. This blanket approach meant there was no rational link between local prices and local demand. Thus, the needed stimulus of a price promotion in stores where sales of an item were slow drained profits from stores where sales were brisk. Worse, in stores with high demand, the discounted price led to premature depletion of inventories, causing shelves to empty before season's end. And moving merchandise between understocked and overstocked stores in time to do any good was both costly and logistically difficult.

"District managers manually took inventory at each store," explains David A. Wegscheid, the divisional vice president of merchandising. "There was no practical way to figure out which items could be transferred by eyeballing

KMART CORP. The Bottom Line

Quantifying IT Expenditures

Investment in Thousands

- Technology purchases and system development
- Maintenance and operations



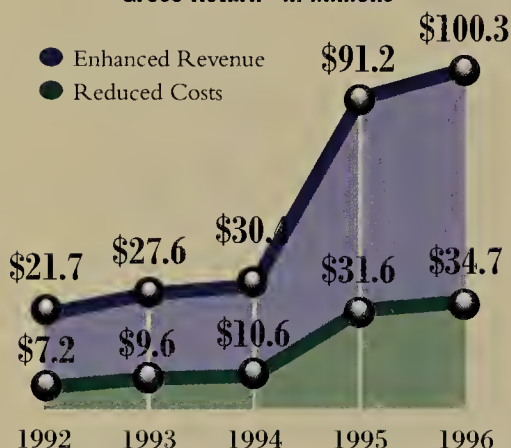
Total Cumulative Investment

\$2.49M

Measuring Increasing Returns

Gross Return* in Millions

- Enhanced Revenue
- Reduced Costs



*Returns accrued from reducing inventory and operating costs and increasing sell-through rate at stores. Figures not available for 1991.

Total Cumulative Return

\$365M

\$365M

÷

\$2.49M

ROI

14,659%

the stuff." Even if it was known that a store was running low on an item, it took too long to scour the reports to locate stores with surpluses.

It fell to Joseph G. Lichocki, a project manager in corporate systems development, to work with Kmart's merchandising group to link price to demand on a store-by-store basis. Lichocki was familiar with the frustration felt by planners and buyers. In 1987, Kmart had acquired a massively parallel relational-database server from Teradata (now an NCR division of AT&T Global Information Systems). It was used to process sales, purchase-order and inventory data. But there had been no easy way to view the data. While hefty weekly reports were produced, merchants had to flip through hundreds of pages to find what they wanted. What merchants needed was daily sales information that could be easily manipulated so that action could be taken in time.

"Our challenge was managing the volume of data while providing our end users with ultimate flexibility," says Lichocki, the architect of the SMMS. "We had the Teradata, but we weren't sure how to make the data 'fingertip ready' and useful." According to Lichocki, the system had to recommend, execute and track action on behalf of merchants. "Any system with those capabilities," he asserts, "will provide a return."

Still, it took a bit of effort to forge a productive partnership between the IS and merchandising groups because, as Wegscheid diplomatically explains it, "merchants and systems worked separately before." However, because SMMS was Kmart's first venture into client/server computing, developing it required both groups to work closely together.

The information systems group enhanced its credibility with the merchandising group considerably by quickly demonstrating the benefits of client/server; the first release of the SMMS was delivered in six weeks using prototyping and rapid system development techniques. Thanks in part to this approach, Wegscheid re-

ports that IS and merchandising regularly work together and now enjoy a productive and cooperative partnership.

SMMS features NCR workstations linked to the central Teradata via the corporate Novell LAN. Overnight sales and inventory data from each store is automatically uploaded to the database. In the morning, buyers and planners at corporate headquarters and merchandising coordinators at regional sites can quickly assess the status of seasonal merchandise by using intuitive graphical user interfaces to drill down into the huge database. For example, a coordinator wondering whether a merchandise transfer could eliminate understocking in one store and overstocking in another can execute a query that graphically identifies the appropriate stores and merchandise and notifies local store managers to take action. Buyers and planners can view sales performance at a variety of levels, including item, department, store and region. An interface with an existing system also lets merchants analyze performance based on specific store attributes; if anyone wants to know how Easter baskets are faring at stores in college towns, SMMS will provide the answer quickly.

"Every morning, my buyers can see exactly how many pieces have been sold, where they have sold and at what price," says Wegscheid. In addition, the system lets merchants better manage merchandise to meet sales targets. If the target stipulates an 80 percent sell-through three weeks before the season ends, a store at 40 percent can transfer merchandise, reduce prices, even change the way merchandise is displayed. (One buyer tracked the sales of inflatable pool toys and saved \$300,000 by avoiding a shipment of merchandise that would have resulted in severe overstocks.)

"We now manage every item end-to-end, from the decision to buy it and stock the store, until it is sold to a—hopefully—satisfied customer," says Wegscheid. **CIO**

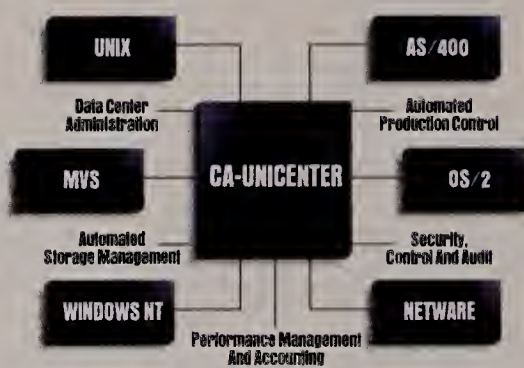
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Computer Systems



1. Standardize On A Common GUI Interface That Makes It Easier To Use, Reduce Training Costs And Boost Productivity.

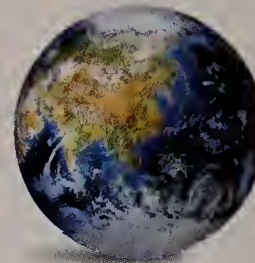


4. Demand An Open Solution That Supports All Key Industry Standards And Protocols.

2. Protect All Your Data With Bulletproof Security Software That Supports Every Platform And Operating System Across Your Entire Enterprise.



3. Choose A Client/Server Application That's Interoperable, Scalable And Portable.

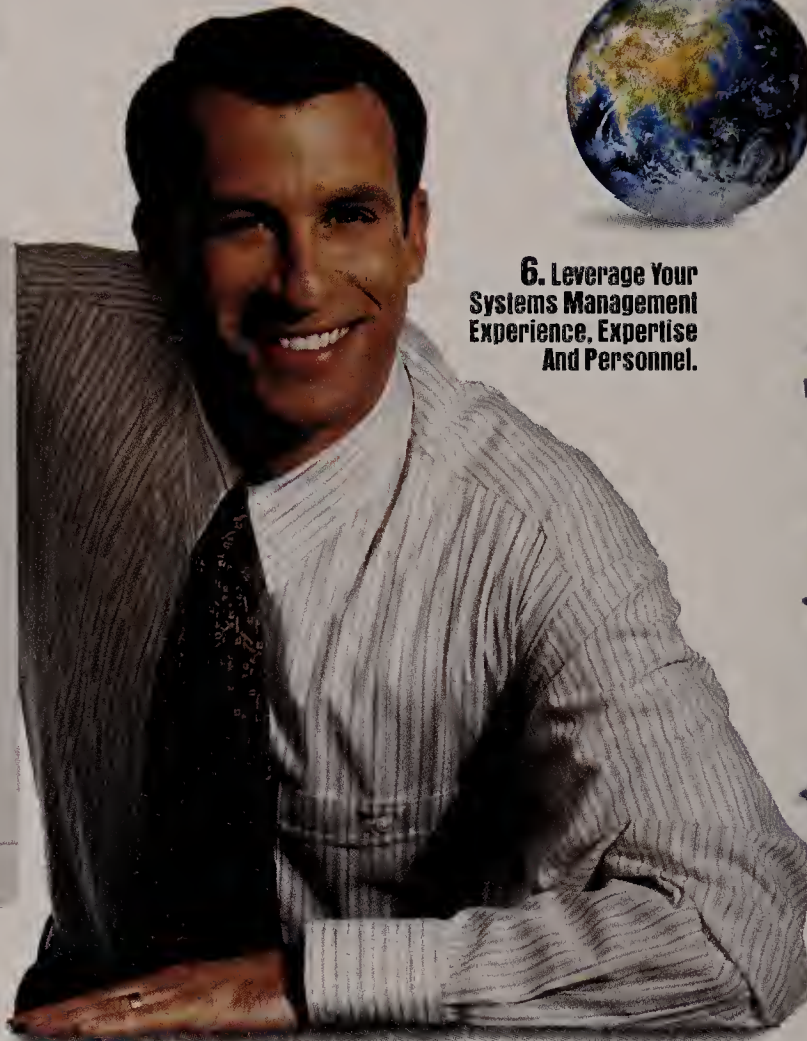


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CIO's 1994

Readers' Choice AWARDS

What are you buying? Our research group surveyed readers and came up with a list of leading technology vendors and products in five software and hardware categories.

CIO's second annual Readers' Choice Awards survey set out to learn which particular brands of technology you've been spending your money on. Not surprisingly, we turned up rosters of household names. Last summer, IDG Research Services (a sister company of CIO Communications) polled random cuts of the CIO subscriber list to find out which vendors our readers put at the head of the class in each of five technology categories: PC/workstation hardware, Macintosh software, OS/2-based software, Windows-based software and Unix-based software.



For the five technologies, respondents were asked to associate particular brand names with relevant positive performance attributes. In each category, 1,500 surveys were mailed. Response rates ranged from 31.4 percent (for Unix users) on the low end to 42 percent (for PC/workstation hardware) on the high end. In the following pages, we present the tabulations in five charts. Here, then, is what you're buying:

Companies in the following charts are awarded the "Clean Sweep Award" for achieving all of the characteristics in their category.

PC/WORKSTATION AWARD WINNERS

	Brand Awareness	Consider for Purchase	Best Price/Performance	Leadership in Technology	Best Return on Investment	Best Quality	Best Service and Support
486 Desktop PCs	IBM	<i>Tie:</i> Compaq IBM	Gateway	Compaq	Compaq	Compaq	IBM
586/Pentium Desktop PCs	Compaq	Compaq	Compaq	Compaq	Compaq	Compaq	Compaq
Non-RISC Workstations	Digital	Digital	HP	HP	HP	HP	HP
RISC-Sparc Workstations	Sun	Sun	Sun	Sun	Sun	Sun	Sun
RISC-MIPS Workstations	Digital	Digital	Digital	Silicon Graphics	Digital	Digital	Digital
Other RISC Workstations	IBM	IBM	IBM	IBM	IBM	IBM	IBM
Notebook PCs	Compaq	IBM	Compaq	IBM	Compaq	<i>Tie:</i> Compaq IBM	IBM

WINDOWS-PLATFORM AWARD WINNERS

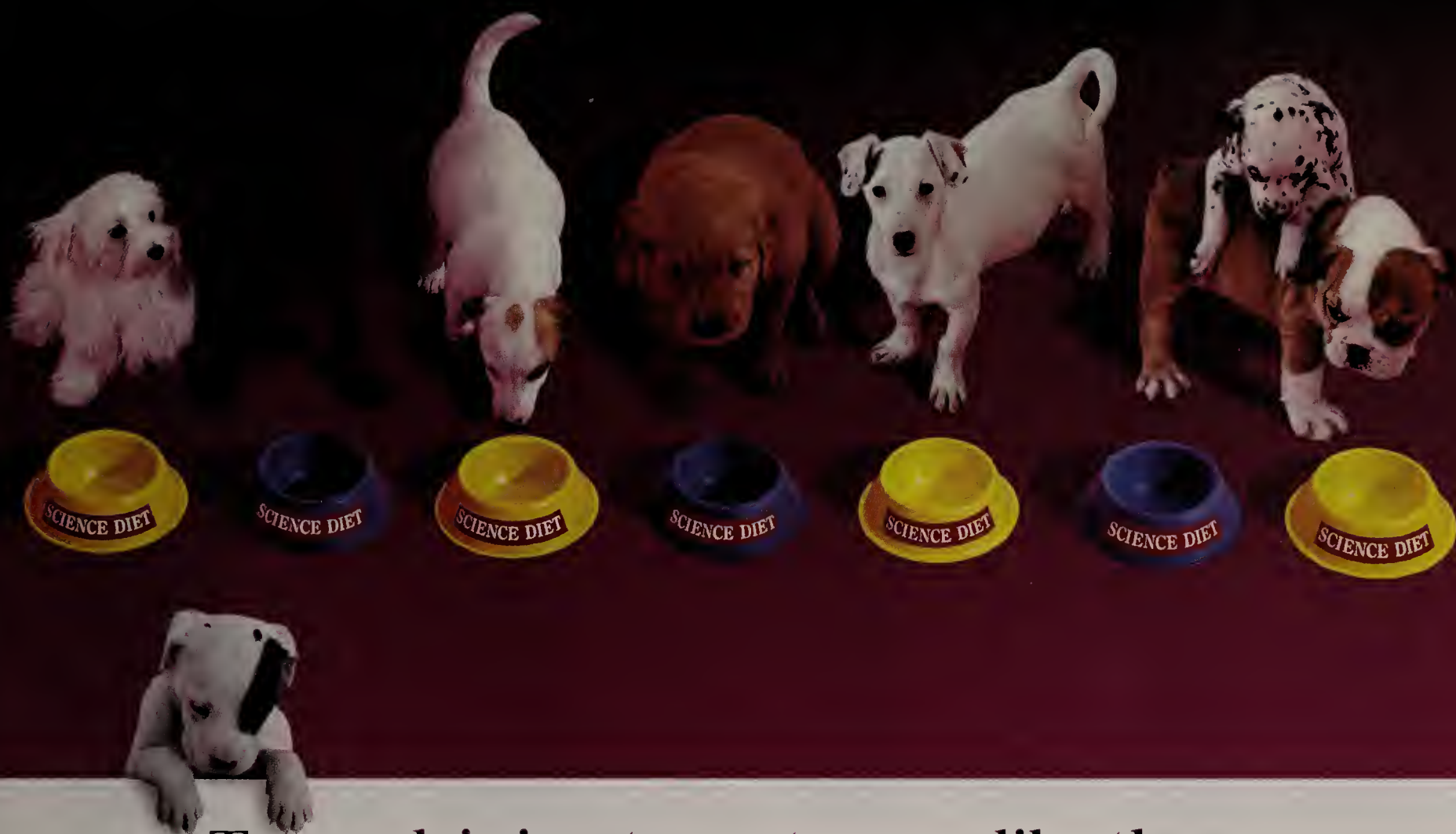
	Brand Awareness	Consider for Purchase	Ease of Use	Best Service and Support	Best Features	Best Documentation	Preferred Business Partner
DBMS	MS* Access	MS Access	MS Access	MS Access	MS Access	MS Access	MS Access
Spreadsheet	Tie: MS Excel Lotus 1-2-3	MS Excel	MS Excel	MS Excel	MS Excel	MS Excel	MS Excel
Word Processing	WordPerfect	MS Word	MS Word	MS Word	MS Word	MS Word	MS Word
Desktop Publishing	Aldus PageMaker	Aldus PageMaker	Aldus PageMaker	Aldus PageMaker	Aldus PageMaker	Aldus PageMaker	Aldus PageMaker
Draw and Illustration	CorelDRAW!	CorelDRAW!	CorelDRAW!	CorelDRAW!	CorelDRAW!	CorelDRAW!	CorelDRAW!
Presentation Graphics	MS PowerPoint	MS PowerPoint	MS PowerPoint	MS PowerPoint	MS PowerPoint	MS PowerPoint	MS PowerPoint
CASE	Knowledgeware ADW**	Texas Instruments IEF***	Knowledgeware ADW	Knowledgeware ADW	Knowledgeware ADW	Knowledgeware ADW	Knowledgeware ADW
Software Suites	MS Office	MS Office	MS Office	MS Office	MS Office	MS Office	MS Office

* Microsoft ** Application Development Workbench *** Information Engineering Facility

OS/2-PLATFORM AWARD WINNERS

	Brand Awareness	Consider for Purchase	Ease of Use	Best Service and Support	Best Features	Best Documentation	Preferred Business Partner
DBMS	Borland Paradox	Oracle	Borland Paradox	IBM DB2/2	Oracle	Oracle	Oracle
Spreadsheet	Lotus 1-2-3	MS* Excel	MS Excel	MS Excel	MS Excel	MS Excel	MS Excel
Word Processing	WordPerfect	MS Word	MS Word	WordPerfect	MS Word	MS Word	MS Word
Desktop Publishing	Corel Ventura Publisher	Corel Ventura Publisher	Corel Ventura Publisher	Corel Ventura Publisher	Corel Ventura Publisher	Corel Ventura Publisher	Corel Ventura Publisher
Graphics	Lotus Freelance	Lotus Freelance	Lotus Freelance	Lotus Freelance	CorelDRAW!	Lotus Freelance	Lotus Freelance
CASE	Knowledgeware ADW**	Oracle CASE	Knowledgeware ADW	Knowledgeware ADW	Knowledgeware ADW	Knowledgeware ADW	Knowledgeware ADW

* Microsoft ** Application Development Workbench



Try explaining to customers like these that their bowls are empty because your data network went down.

Reliability. In a word, that's why Hill's Pet Nutrition chose AT&T data communications services.

After all, Hill's wouldn't have such a loyal customer following if it weren't for the trusted quality of their pet food. So it's only natural that Hill's would insist upon a trusted data network.

One tiny problem with Hill's data network could cause big distribution delays. And that could mean empty bowls for more than a few Mutleys and Muffins.

But that's not likely to happen. Thanks to ACCUWANSM Services, a turnkey, managed-LAN inter-networking solution. It's designed, implemented, man-

aged and maintained by AT&T network specialists.

From a dedicated center, AT&T monitors all of Hill's wide-area data network components. And if there's ever any problem, it's located and corrected faster than you can say "fetch."

So Hill's can concentrate on more important aspects of their business. Like feeding the Boomers and the Bingos of the world.

► **To find out how your data network can lead a long, healthy life, call 1 800 332-7FAX, Ext. 600.**

But call today. You wouldn't want your data network to keep any customers waiting.

MACINTOSH-PLATFORM AWARD WINNERS

	Brand Awareness	Consider for Purchase	Ease of Use	Best Service and Support	Best Features	Best Documentation	Preferred Business Partner
DBMS	MS* FoxBase/FoxPro	Oracle	MS FoxBase/FoxPro	MS FoxBase/FoxPro	Oracle	MS FoxBase/FoxPro	MS FoxBase/FoxPro
Spreadsheet	MS Excel	MS Excel	MS Excel	MS Excel	MS Excel	MS Excel	MS Excel
Word Processing	MS Word	MS Word	MS Word	MS Word	MS Word	MS Word	MS Word
Desktop Publishing	Aldus PageMaker	Aldus PageMaker	Aldus PageMaker	Aldus PageMaker	Aldus PageMaker	Aldus PageMaker	Aldus PageMaker
Draw and Illustration	Adobe Illustrator	Adobe Illustrator	Claris MacDraw II/Pro	Claris MacDraw II/Pro	Adobe Illustrator	Claris MacDraw II/Pro	Claris MacDraw II/Pro
Presentation Graphics	MS PowerPoint	MS PowerPoint	MS PowerPoint	MS PowerPoint	MS PowerPoint	MS PowerPoint	MS PowerPoint
CASE	Sybase Deft	<i>Tie:</i> ES** MacAnalyst/Expert Sybase Deft	ES MacDesigner/ Expert	ES MacDesigner/ Expert	ES MacDesigner/ Expert	ES MacDesigner/ Expert	<i>Tie:</i> ES MacDesigner/Expert Sybase Deft

* Microsoft ** Excel Software

UNIX-PLATFORM AWARD WINNERS

	Brand Awareness	Consider for Purchase	Ease of Use	Best Service and Support	Best Features	Best Documentation	Preferred Business Partner
DBMS	Oracle	Oracle	Oracle	Oracle	Oracle	Oracle	Oracle
Spreadsheet	Lotus 1-2-3	Lotus 1-2-3	Lotus 1-2-3	Lotus 1-2-3	Lotus 1-2-3	Lotus 1-2-3	Lotus 1-2-3
Word Processing	WordPerfect	WordPerfect	WordPerfect	WordPerfect	WordPerfect	WordPerfect	WordPerfect
Desktop Publishing	FT* FrameMaker	Interleaf	FT FrameMaker	FT FrameMaker	FT FrameMaker	FT FrameMaker	FT FrameMaker
Graphics	Lotus Freelance	Lotus Freelance	Lotus Freelance	Lotus Freelance	Lotus Freelance	Lotus Freelance	Lotus Freelance
CASE	Oracle CASE	Oracle CASE	Oracle CASE	Oracle CASE	Oracle CASE	Oracle CASE	Oracle CASE
Security	CA** CA-UNICENTER	CA CA-UNICENTER	CA CA-UNICENTER	CA CA-UNICENTER	CA CA-UNICENTER	CA CA-UNICENTER	CA CA-UNICENTER

* Frame Technologies ** Computer Associates

"We want to be competitive in today's global marketplace. And MDIS Chess gives us the blueprint for worldwide success."

"MCD was formed when Maytag's V.P. of Sales, Mike McDavitt, bought out the Maytag plant that makes Magic Chef microwave ovens and dehumidifiers. When Mike bought the company, they were losing money and Maytag's computer systems were in Cleveland. We had to be off their computers fast.

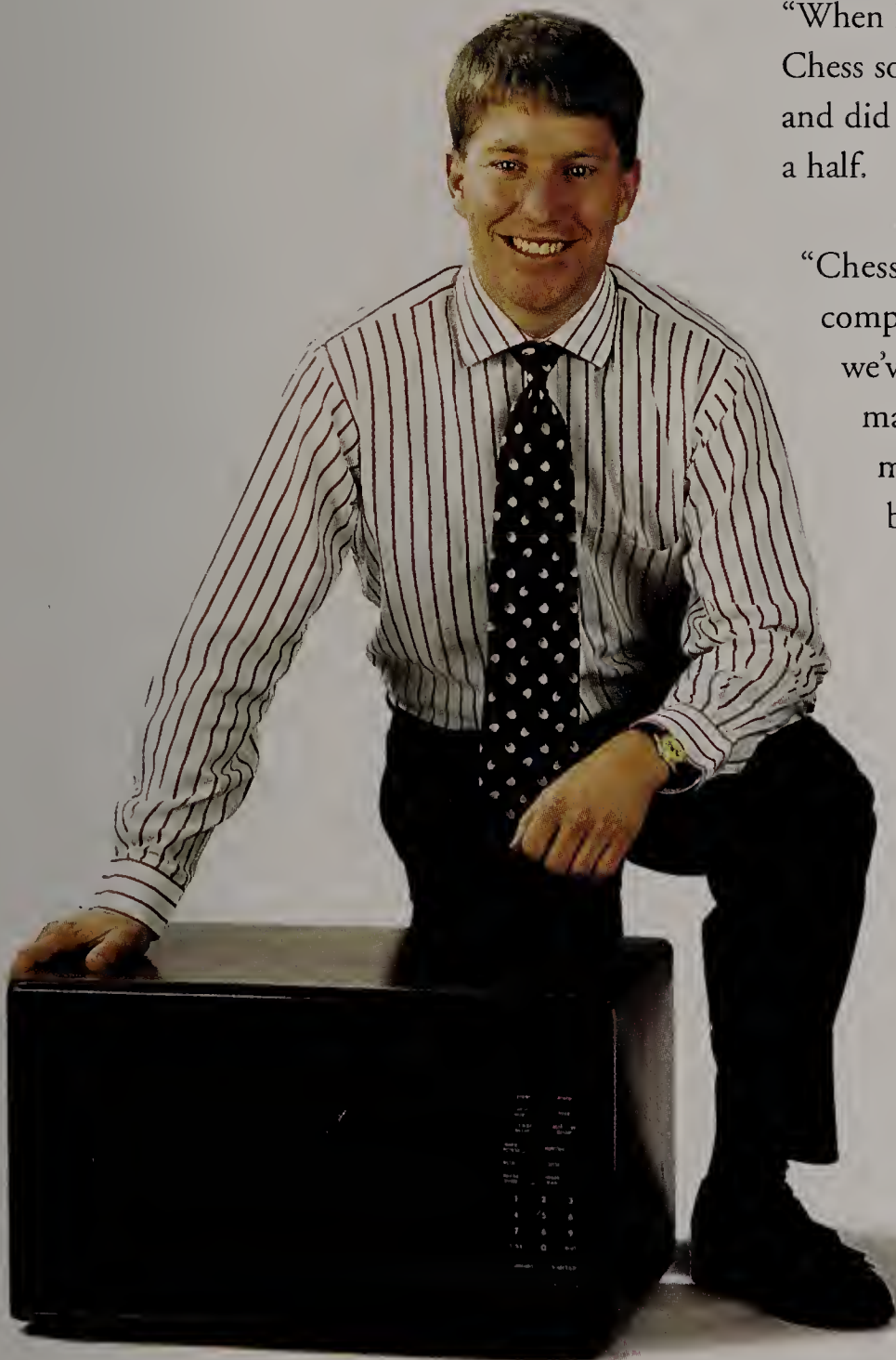
"When I got here, they had already purchased the MDIS Chess software. We got hardware from Hewlett Packard and did the total implementation in about a month and a half.

"Chess has allowed MCD to become a standalone company in a short period of time. One of the benefits we've gotten from Chess is that we have a very small managerial staff. But also it's very easy for us to model Chess – Chess allowed us to set up our business using a paradigm that was already there.

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Information Systems Manager
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The Systems/Business Balancing Act

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LIKE SCULPTORS, I/T CONSULTANTS MUST CAREFULLY
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BUSINESS GOALS AND USER NEEDS.

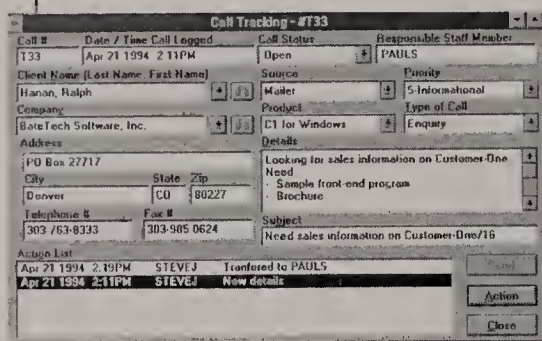
THAT'S WHY BOOZ-ALLEN STARTS AT THE BEGINNING ON
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BUSINESS, SYSTEMS THAT DRIVE SUCCESS.

Only Connect

It used to be that a good product was enough to ensure a company reasonable success. But today, good customer service and market communications are just as important; companies that don't know it are almost guaranteed to suffer.

Traditionally, most organizations have relied upon a variety of separate help-desk, market-information, E-mail, bulletin-board and other systems to manage their communications with customers and others. But BateTech Software Inc.'s Customer-One is a fully integrated and automated market-interaction and end-user support system. Based on a client/server design, Customer-One is a groupware solution that



connects customers—as well as distributors, suppliers and field staff—with your company. It offers sophisticated, easy-to-use online ordering and technical assistance, gathers market intelligence, decreases response time and lets users access your company's product database directly via a customizable Windows interface.

Features include a full-text knowledge base search-and-retrieval engine, a customizable self-help desk, an information-dissemination capability, a software-distribution system, and E-mail and interactive online conferencing. Multiple levels of access are available for internal and external audiences.

Customer-One requires Microsoft Corp.'s Windows NT 3.1 or NT Advanced Server 3.1 and Microsoft SQL Server 4.2 for Windows NT. An entry-level system costs less than \$3,500. For more information, contact BateTech at 303 763-8333.

Local Mobility

Portable computing is great, but an increasing number of business applications require being connected to a local network. Zenith Data Systems' CruisePAD works in conjunction with the company's CruiseLAN wireless product line to provide locally mobile users with the computing power, applications and storage capacity of PCs and networks.

CruisePAD enables users to wirelessly control a desktop or notebook PC while walking around the sales floor with a customer, visiting patients or working with a project team. When used in conjunction with a PC equipped with the company's CruiseLAN/ISA or CruiseLAN/PCMCIA card, it allows users to work with all DOS and Windows applications running on a desktop or notebook host and provides access to any network capabilities available to that host.

The CruisePAD communicates via a wireless spread-spectrum radio, sending input commands to the host PC or a networked access point and receiving display updates instantly. The normal range of 500 feet can be extended with additional products.

The device's 8.5-inch backlit screen displays the video output of the host computer and supports user input via a configurable onscreen keyboard, stylus/touch-activated integrated digitizer panel or optional external keyboard. Weighing about 3.2 pounds and measuring approximately 10.6 by 9.8 inches, CruisePAD can easily be held with one hand and operated with the other, according to the company.

CruisePAD sells for \$1,399. The CruiseLAN/ISA card is \$595, the PCMCIA card is \$695, and the Access Point is \$1,895. For more information, call 800 533-0331.



Remote Mail Call

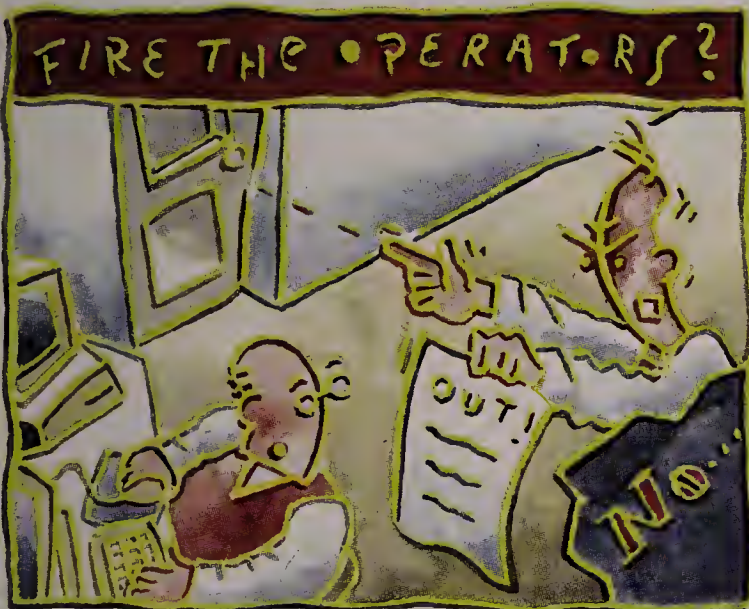
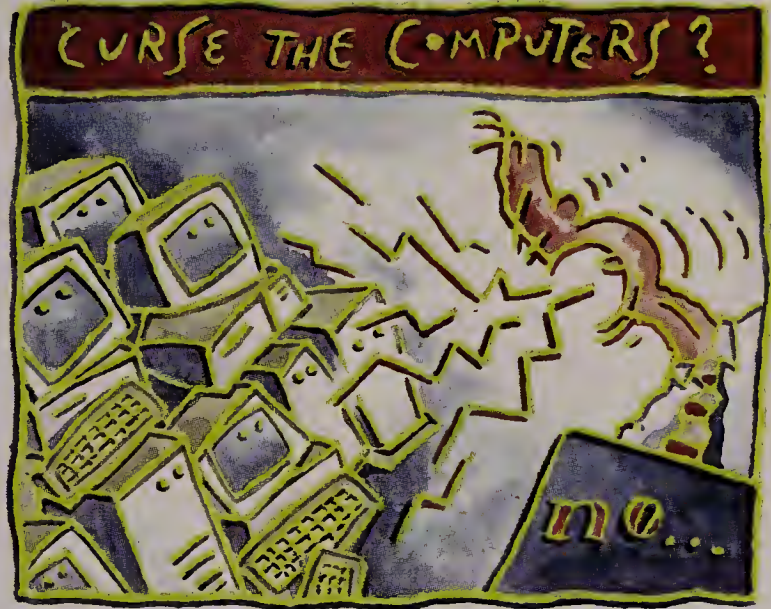
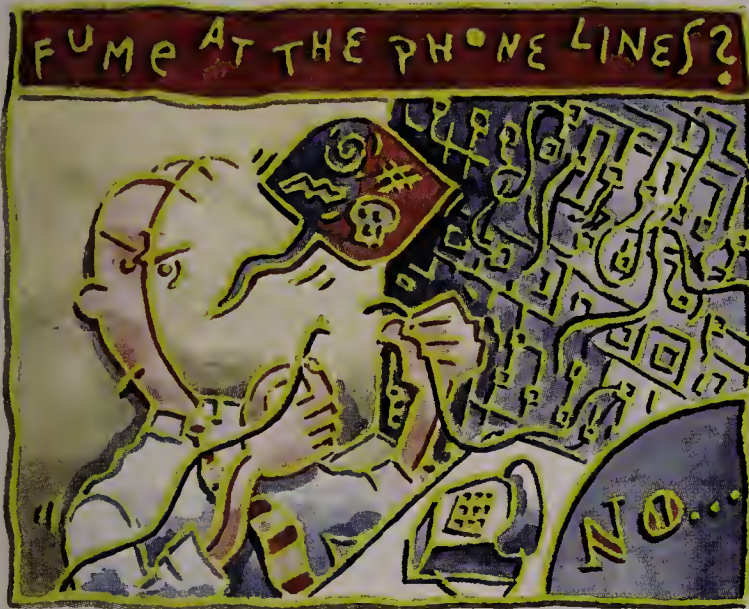
Electronic mail may be the great leveler as far as business communications are concerned, but it can also prove a great barrier when it comes to accessing mail from a remote location. Travelers complain about struggling with unfriendly gateway software, and accountants reviewing phone bills complain about the high price of reading and answering electronic mail via a remote link.

To ease messaging hassles, CommTouch Software Inc. has developed Pronto, a Windows-based communications software package that lets users access the Internet or Unix-based E-mail via point-and-click interfaces, without having to deal with command-based communications packages. Users can upload and download mail and read and respond to messages offline without leaving the Windows environment. Pronto organizes messages into electronic file folders; it also prioritizes and filters mail.

To set filtering parameters, users click on "filter" in the pull-down menu and direct the system to eliminate certain types of messages—for instance, those from particular departments or people, those relating to certain subjects or those not directly addressed to them. To prioritize, a user specifies which messages she wants to see first, say those from her supervisor and her direct reports.

The \$99 software runs on IBM-compatible PCs with Microsoft Corp.'s Windows 3.1, at least 3MB of disk space and an asynchronous modem. For more information, contact CommTouch at 415 578-6580.

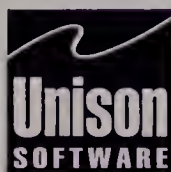
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is worth 50 people with opinions.



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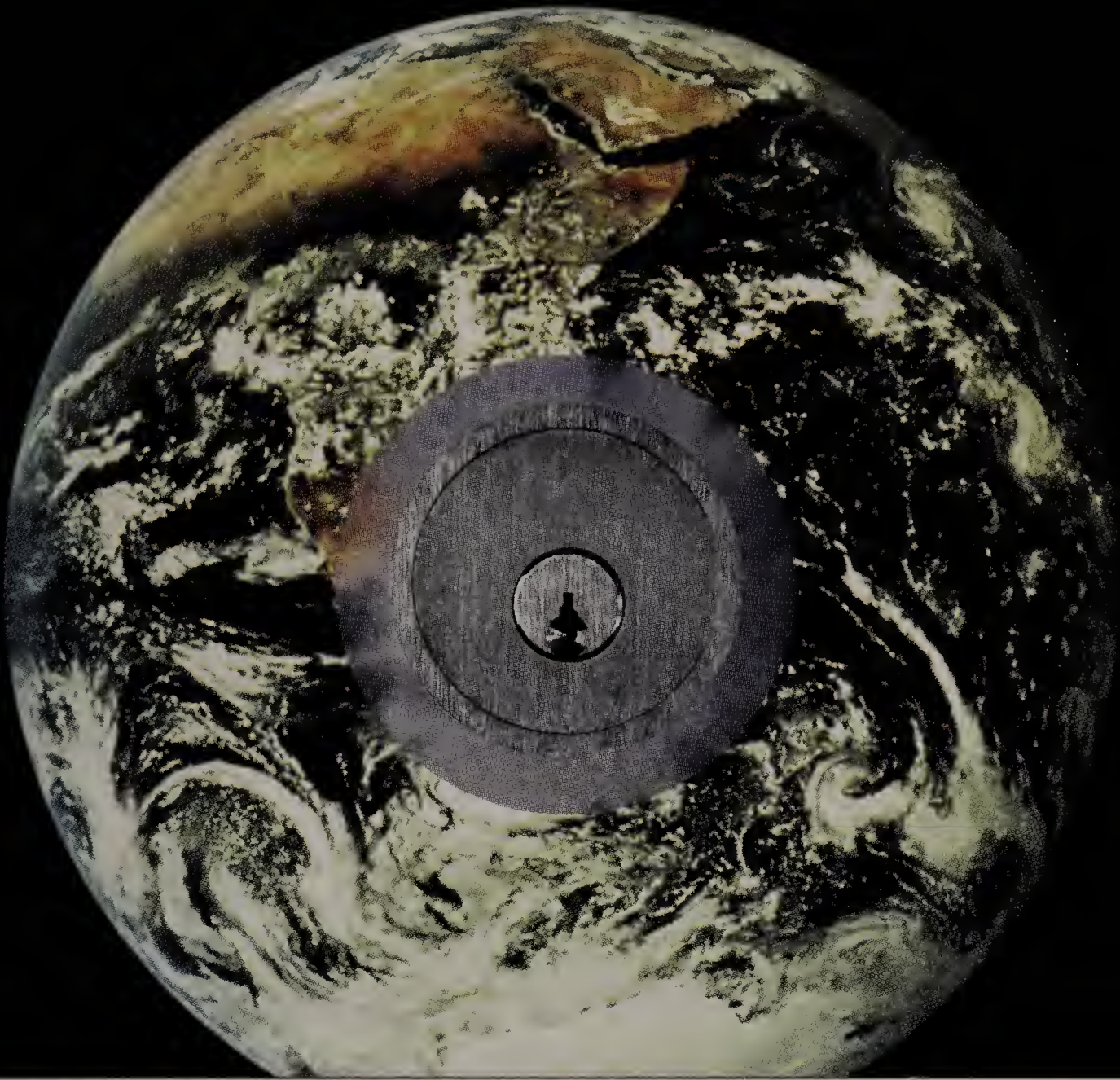
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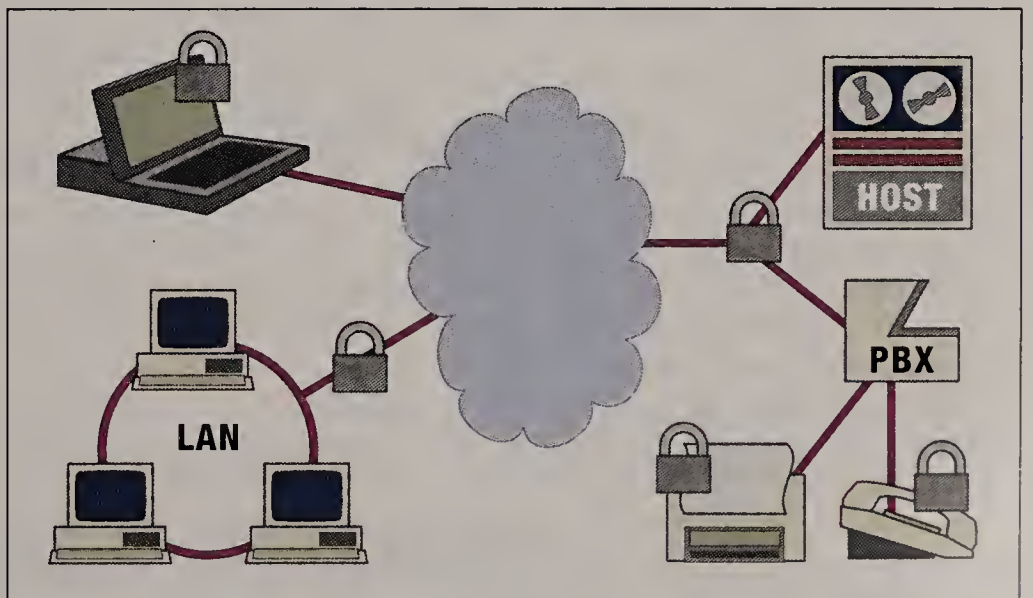
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Continued from Page 76

"Um. Hi. This is Artie."

"Artie who?"

"Um... Artie Intelligence..."

"Eeeeeuuuuuuuuuu! Well, you've certainly (definitely, absolutely, positively) come to the right (correct, apropos, copacetic) place."

And so forth. Now, at least, people don't often snicker when the topic turns to expert systems. And this (in a roundabout way), is what I find intriguing about all of the client/server thises and thats: I think we've seen them before. As Yogi said, "It's déjà vu all over again."

I RECALL THAT I USED to apply a notion called distributed processing. To refresh your memory, this was the neat idea that, where feasible, processing could best be done at a point closest to where the relevant work was actually occurring—such as in a bank or insurance company's branch offices on relatively inexpensive smart workstations rather than on the costly, water-cooled mega-MIPS heavy iron in some distant data center. It didn't work all that well (although some insurance companies and banks were rumored to have made headway on the problem with things called 3790s, or something). I hear that distributed processing works somewhat better now and may in fact be catching on, but I sure don't ever see the term used anywhere nowadays.

It's not unusual to encounter conceptual hysteria, whereby everybody latches on to some idea that sounds good and utopian. (Salary caps had that effect last fall, if you can remember that far back.) You may also recall the famous "paradigm shift," which enjoyed a fleetingly frenzied vogue not so long ago—and I still don't know what one is. But for a while there, everyone either had to have one or be well on the way to getting one, or else they just weren't a fully participating player in the economy.

What bothers me about client/server is that it was *always* a good

idea to keep an application current with the needs of the business and running in a productive way on the most efficient and economical machines available. That's why we don't have paper tape and card punches anymore. And it was *always*

Whatever flavor of the moment anyone happens to be into, you are dullsville if you are not.

a good idea to keep an IS organization relevant to the business to avoid its becoming an end in itself, insular and remote from where the enterprise was headed. And I'm not sure we need to give a new name to what amounts to nothing more than just doing our jobs competently. If we are wedded to a particular way of doing things that is no longer the most cost-effective for our business, then we need to change—and to lead the change. But I don't ever remember being a *mainframe* CIO. Do you? The object is to apply whatever technology works best for the business—whether it's a mainframe, a client or a server. We have to make sure we're being smart and not just hip in making decisions about these things.

If you don't stay current, you're dead. And if you don't stay relevant, you're dead too. You can give whatever name you want to this—reengineering, resizing, relevantizing, smartdowning.... Call it what you will.

And after all the faddish client/server furor is stripped away, I'm not so sure we're making very much progress. For example, I read an article recently in which an experienced CIO was quoted saying that he was dealing with vendors that hadn't even existed as recently as two or three years ago. This worried him a bit. In another article, an equally experienced CIO was quoted opining that the use of proven technologies and techniques was one of his "critical success factors" (remember them?). I have trouble rationalizing

the situation of the first CIO with the observation of the second: How can you have a proven technology from a company that wasn't on the books two or three years ago?

Then I saw that MIT's Lincoln Labs had recently finished a technical audit of a big Federal Aviation Administration conversion. But while the audit described the architecture as "robust" (which used to be a euphemism for overdesigned and really expensive), it noted that the code was poorly documented.

How's that for a brand-new problem? You'd think we could have fixed that one by now.

Shortly after reading about the FAA audit, I was doing a bit of holiday shopping by phone. I called one of the major (and I do mean *major*) mail-order houses and, after slews of busy signals, was eventually connected to a recording that informed me of how a recent computer conversion had screwed up ordering for a four-week period. (It was phrased more tactfully than that, but that's what it came down to. I myself recall putting out coy messages like that 20 years ago.) When I finally did get to an operator, who was very tired and apologetic, I was overcome with sympathy. I said, "I guess your computer guys are fixing the system again, huh?" And she said, "Yeah. Every time it starts getting better, they want to change it again."

Where have I seen this picture before?

If, in moving to these new venues, we keep repeating the mistakes of the past, does this really count as progress? I want to make a case for good management, rigorous testing, knowing what the heck you're doing and not leaping to something just because everyone else is. That's not reengineering; it's *engineering*. **CIO**

W.F. Dyle is the pseudonym of a working CIO whose observations appear regularly in "CIO Confidential." Let us know what you think of this column by calling Executive Editor Lew McCreary at 508 935-4618, or by sending E-mail to ciomag@mcimail.com.

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The Name Game

GOT A TELEPHONE CALL from a headhunter the other day. These are always ego-enhancing experiences: Someone might actually *want* me! With turnover as high as ever in our profession, that can be really important. Most headhunters (or executive-search professionals, as they prefer to be called) follow a careful, if transparent, ritual—especially on cold calls. Usually they inquire as to whether you might know someone who would be interested in or qualified for job X. Nine times out of 10, the call is for you. (Any headhunter who really wants your advice about some other candidate is very likely someone you already know pretty well.) The practice is so common now that they might as well dispense with the subterfuge and just ask if you want to consider a new job.

Anyway, this personable, smooth-talking bearer of opportunity began to describe the job as moving a company to “downsizing with Unix, client/server, object-oriented stuff, including reengineering and CASE.” He was obviously reading this from a spec sheet, and it was not at all clear that he really understood what all the words he was speaking meant. In my experience, most of the first-round calls from recruiters are like that, with the callers at first expressing a level of enthusiasm more appropriate to notifying you that you’ve won the Publisher’s Clearinghouse Sweepstakes. That done, however, they settle down to reading off a long list of specs they don’t really understand. My excitement plummets once I realize that the call is from a researcher who is just prospecting for his or her higher-ups.

In any event, I find that headhunters (and probably other people) frequently group any number of concepts as though they always belong together—in this case, client/server, downsizing, Unix and reengineering. (They might also have thrown in symmetric multiprocessing,

object-oriented something or other and hyper-text markup languages.)

Whatever flavor of the moment anyone happens to be into, you are dullsville if you are not. So what if this cause célèbre offers ill-defined, elusive results and may even cost more than what you’re doing now? Hey...it’s new and it’s happening! (And who among us wants to be more obsolescent than people think we already are?) But it does seem that when you buy any one of the current concepts, all of the others are automatically tacked onto it, like so-called options onto a new car (do they actually come any other way?).

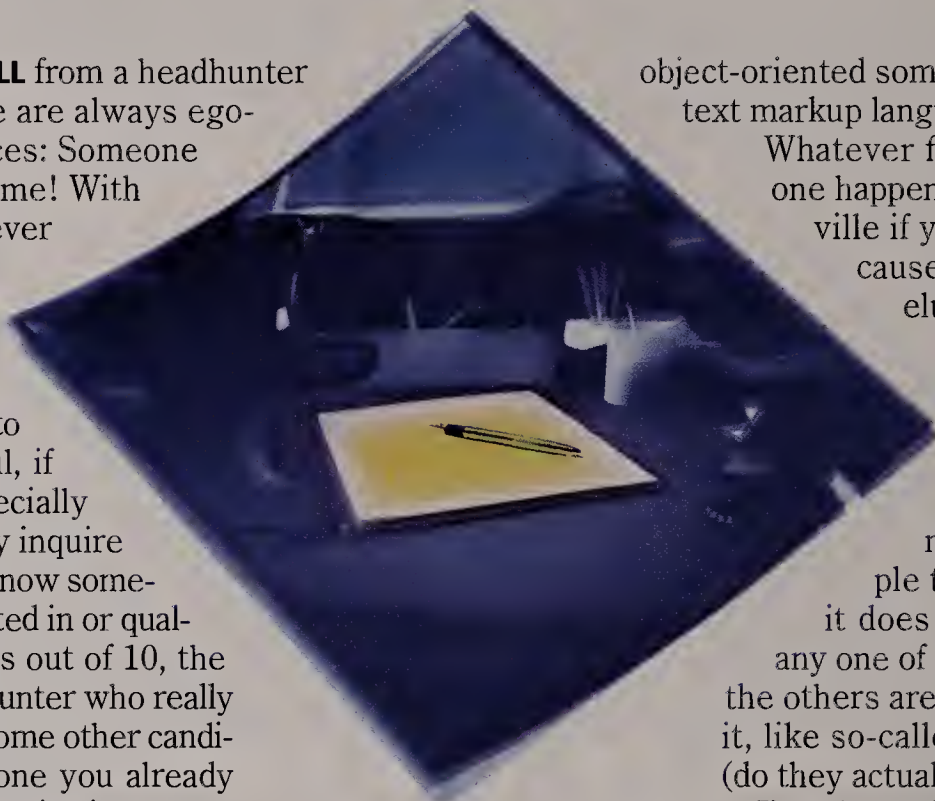
I’ve always been a little slow with concepts. I tend to want to know what one really means before parroting it, much less embracing it. That probably makes me a little stodgy and conservative. Still, having spent 30 years or so around the computer business, I’m not convinced that invention and novelty occur as often as we are sometimes led to believe. I was amused by a remark in the latest Tom Clancy thriller: Hero Jack Ryan, battling the usual insurmountable odds (he ought to try converting from MVS to client/server!), observes that “expert systems” is the new name for stuff that used to be known as “artificial intelligence” before the latter term went out of favor.

And why did the latter term go out of favor? Well, basically because it was so widely publicized by the eager high-tech punditry as easily the greatest thing since movable type—and then it quickly turned out not to work so good.

By the time hard work and perseverance, along with big price/performance gains, succeeded in getting AI to deliver real benefits, the name had become so sullied that a fresh synonym was needed:

“Ministry of Synonyms. How may I really (actually, in fact) help (please, satisfy) you?”

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*Is information
technology making
progress—or do we
just repackage it
periodically?
Client/server, thy
name is distributed
processing.*

BY W. F. DYLE

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